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Monterey, California



THESIS

ASSESSMENT OF LOGISTICS IMPROVEMENTS MADE BY
DEPARTMENT OF DEFENSE REINVENTION LABORATORIES

by

Todd M. Jenkins

December 1997

Thesis Advisor:

Second Reader:

Lawrence R. Jones

Jerry L. McCaffery

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**ASSESSMENT OF LOGISTICS IMPROVEMENTS MADE BY DEPARTMENT OF
DEFENSE REINVENTION LABORATORIES**

Todd M. Jenkins
Captain, United States Marine Corps
B.S., The Ohio State University, 1991

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

**NAVAL POSTGRADUATE SCHOOL
December 1997**

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ABSTRACT

This thesis examines the logistics accomplishments of Reinvention Laboratories in attempting to improve business practices within the Department of Defense. It documents five cases in which over \$342 million in annual savings were achieved to show the potential of continuous improvement. It also provides recommendations for further research and for investment of resources to permit DoD logistics organizations to obtain greater savings.

This thesis provides a tool and a knowledge base useful to existing and new Reinvention Labs. Through review of the lessons learned and study of the barriers to success, it is hoped that avoidance of the many pitfalls encountered with implementing change can be avoided.

Through business process reengineering (BPR) and the entrepreneurial spirit, DoD can transform its large and inefficient logistics organizations into more flexible, effective, streamlined institutions capable of rapidly adapting to the changing needs of the Armed Services. This thesis illustrates how DoD, through the resource savings in reengineering and reinvention, can generate funding to invest in modernization to prepare for the missions identified in the DoD's template for the future -- Joint Vision 2010.

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I. INTRODUCTION

A. PURPOSE

The purpose of this thesis is to examine the logistic accomplishments of the Department of Defense (DoD) Reinvention Laboratories and the impediments the laboratories have faced in striving to improve logistics efficiency and effectiveness. "By definition, a reinvention lab is a place where experimentation takes place, where new practices, processes, and procedures are tried." (Jones and Thompson, 1997, p. 7) The Reinvention Laboratory designation is given to organizations that have been selected to implement entrepreneurial practices in government through restructuring, reengineering, reinventing, realigning, and rethinking in order to become more efficient and effective. (Jones and Thompson, 1996, p. 1)

These designated laboratories are permitted to waive rules and regulations to institute innovative ideas or processes that make the organizations work better and cost less. This thesis evaluates the logistics Reinvention Laboratories' efforts and experiences, and attempts to identify factors that contribute to both successful and unsuccessful reforms. The final goal is to:

- 1) Identify successful best practices and process improvements so that they may be benchmarked or adapted by similar organizations.

2) Recommend where further resources might be invested to overcome barriers, enabling increased savings and efficiency.

B. RESEARCH QUESTIONS

1. Primary Research Question

To what extent have DoD sponsored Reinvention Laboratories been successful in increasing logistics efficiency and effectiveness and how has this contributed to the Department of Defense's preparations for its future?

2. Secondary Research Questions

The secondary research questions are:

- a. What has been accomplished by Reinvention Labs in logistics?
- b. What lesson can be extracted from Reinvention Lab successes?
- c. What barriers to logistics reinvention exist and how can they be overcome?

This thesis will assess the logistics performance of the current DoD Reinvention Laboratories. Based on a survey submitted to the 226 Reinvention Laboratory points of contact, lessons learned will be drawn based on success stories and impediments to process improvement. The final portion of this thesis will include suggestions from various Reinvention Laboratories on what they recommend could be done to improve the existing waiver and reinvention process.

The goal is to provide newly designated, inexperienced Reinvention Laboratories with tools and an understanding they can use to improve their organizations.

C. BACKGROUND

The end of the Cold War has caused significant changes in the outlook of the relative importance of the military in comparison to other national interests. The large discretionary funding allocated to the military is under tremendous scrutiny. Many critics wish to reap "peace dividend" benefits from the costly Cold War investment and utilize this discretionary funding for other programs viewed as more important. While tenaciously fighting to maintain its constant \$250 billion budget, the Department of Defense is struggling to meet all of its requirements. This uphill battle includes judiciously using its tightly constrained budget to support contingency operations, to maintain its costly, aging equipment, and to invest in modernization programs that will enable it to meet the missions envisioned in its template for the future - Joint Vision 2010.

One strategy to allow DoD to meet these requirements is to seek future savings within the area of logistics. Logistics, like DoD, is having to make innovative changes to meet its demands. These demands can be divided into two areas: preparations for daily operations and investing in future modernization programs. "The end of the Cold War requires the DoD logistics system to make adjustments to

support a smaller, highly mobile, high technology. The pressure of fiscal limits, combined with the demands of regional conflicts, humanitarian support, and other non-traditional missions, all put a premium on logistics performance and flexibility." (Kaminski, 1995, p. 2) "At the same time,...'engineering' costs out of tail" is critically needed to invest in badly needed modernization programs necessary to meet our nation's future challenges. (Kaminski, 1995, p. 9)

How can the Department of Defense meet all of these challenges? The solution is by using Business Process Reengineering (BPR) and instilling the entrepreneurial spirit to transform the excessively large and inefficient structure of these logistics organizations into flexible, effective, streamlined institutions capable of rapidly adapting to the changing needs of the Armed Services. The mechanisms for instituting these concepts are the reinvention labs scattered throughout the Department of Defense pursuing improved business practices.

D. METHODOLOGY

This thesis relies upon two data bases. The first was derived from presentations by DoD Reinvention Laboratories at the Department of Defense Reinvention Laboratory Symposium held January 27-31, 1997, in Washington, D.C.. The second data base is a logistics-oriented Reinvention Lab survey conducted for this thesis from May 1997 to September,

1997. Labs were asked to respond to a survey questionnaire (see Appendix A), prepared and administered for this thesis research, to assess their performance and the DoD reinvention waiver process.

The conference data allowed the 291 attending DoD Reinvention Laboratory representatives to share ideas and lessons learned and to express their concerns about reinvention support to senior Department of Defense officials. The conference provided a forum, via breakout sessions, for Reinvention Laboratory personnel to ask questions and learn how others had overcome hurdles they faced. The symposium also provided a points of contact list for the labs that attendees could use to further communicate and thus better leverage group knowledge.

A survey of the 226 Reinvention Laboratory "front-line" points of contact provided by the Office of Performance Improvement and Management Reengineering was then designed and administered by the author to assess critical tools of logistics success and to define barriers found by the diverse Reinvention Laboratories. Based upon information obtained from the surveys, follow-up telephone interviews or e-mail inquiries were used to clarify responses and to obtain amplification of data as necessary.

Literature research also was conducted to identify what the Department of Defense's overarching logistics goals are and how the efforts of the Reinvention Laboratories are supporting these goals. An analysis of Vice President

Gore's National Performance Review also was undertaken to place DoD's goals in perspective with the rest of the Federal Government. An examination of the achievements as documented from the literature review and surveys then compared these to DoD goals.

E. THESIS OVERVIEW

Chapter II provides an analysis of how the evolving budget and structure of the Department of Defense combined with the nation's continuing contingency requirements has strained its ability to maintain a high level of readiness. Chapter II then addresses DoD's strategy, Joint Vision 2010, to maintain its readiness posture in the dynamic future while resource constrained. Chapter III starts with answering why there is such a pressing need for entrepreneurial government. It examines the origins of reinventing government and the associated terminology critical for understanding this reform. This chapter then addresses the Vice President's reinvention plans using the National Performance Review (NPR) to spearhead this wave of change. Chapter IV shifts the reengineering/reinvention focus directly on the Department of Defense. It investigates what types, sizes and functional organizations participate as Reinvention Laboratories in the DoD. It closes with a synopsis of the objectives and the topics covered during the 1997 Reinvention Lab Symposium. Chapter V further refines the perspective on reinvention to

logistics. It discusses the creation of the logistics survey and the subsequent results for the "front-line" representatives (Appendix A), where the actual innovations are taking place. It also provides some insight from the senior reinvention lab coordinators' perspective as recorded from their response to a modified version of the "front-line" representatives' survey (Appendix B). The final portion of the chapter provides an assessment of the lessons learned, discusses eight reoccurring factors that lead to success for organizations seeking innovative change, and eight impediments planners need to address. Attached to the eight impediments are some suggestions obtained from the labs on how resources might be invested to enhance the efficiency seeking efforts of the DoD Reinvention Laboratories.

Chapter VI provides the conclusion on how the efforts of the laboratories have significantly contributed to not only improving the efficiency and effectiveness of DoD, but have saved significant resources badly needed for future modernization investment. Chapter VI provides an overview of the key leadership practices and instruments for success documented in the analysis portion. It also restates the potential barriers and includes a few recommendations for where resources could be expended to enhance the reinvention efforts by the labs. Finally, it concludes with recommendations for further research.

F. LIMITATIONS

1. Survey Form

Care was taken to prepare an unbiased survey form. Both positive and negative lessons learned were gathered from the Reinvention Laboratory points of contact, without steering them toward a particular response.

2. Survey Data

Although the survey to the reinvention laboratory "front-line" points of contact was sent out two times, from May 1997 to September 1997, in an attempt to reach every organization, we received input from only 52 of the 226 points of contact. Of these 52 responses, only 27 had logistics or transportation reinvention input. This illustrates the fact that there was a substantial (174 representatives that we could either not contact or did not respond) data source that remained untapped. Data collection was hampered by the following:

a. *Utilizing Electronic Mail Vice Conventional Mail.*

While trying to conduct this research in step with the spirit of this paper, pursuing cost effectiveness and efficiency, the researchers elected to use e-mail to disseminate and collect survey information. However, we ran into problems with the e-mail addresses. Master address lists quickly became outdated. Numerous organizations rapidly changed their addresses as their key points of

contact, organizational titles, structures or supporting servers changed. As a result, valuable input could not be obtained.

b. Lack of Quantitative Data.

Due to the difficulty in quantifying savings achieved, the newness of many of the Reinvention Laboratories and the corresponding programs they have started, an accurate qualitative justification of reinvention logistics savings within the Department of Defense was made difficult.

c. Pinpointing Logistics Savings.

Logistics exists everywhere in almost all programs in one shape or form. In classifying logistics reinvention, many organizations saw logistic savings as part of some other category. As a result, many of the innovations in logistics reinvention and the parallel savings did not come to light in the surveys.

d. Death by Surveys.

Most of the Reinvention Laboratories appeared to support the logistics survey. The one constant with the laboratories is that the people running the labs are high spirited individuals who truly wish to make a difference. However, it became apparent in responses to the surveys that some of the lack of response was due to the overwhelming requirement for information from the Reinvention

Laboratories. With many of the laboratories suffering manpower cuts, much of this same information had been provided already with no feedback received for their efforts. As a result, it may be concluded that there was little incentive perceived to justify their time re-collecting or submitting the data.

The second chapter examines the resource challenges faced by the Department of Defense and how DoD plans to deal with important resource and management issues.

II. BACKGROUND

A. THE MILITARY'S CHALLENGE - READINESS AND SUSTAINABILITY

The Department of Defense is facing one of its most ambitious challenges -- maintaining and supporting a highly capable force with a significantly reduced resource base while continuing to meet the same, demanding operational requirements. William S. Cohen, the Secretary of Defense, emphasizes the critical nature of DoD logistics:

Maintaining the readiness and sustainability of U.S. forces is the number one priority of the Department of Defense. (Cohen, 1997, p. 25)

This chapter briefly outlines the past, present and anticipated future budgetary history of the Department of Defense and its effect on readiness. It further looks at how the continuous use of military forces combined with the existing level of budgetary support has strained military readiness. Finally, the chapter will look at how the Department of Defense will attempt to continue to meet its vast logistical requirements in readying itself for the future through its service-integrated template -- Joint Vision 2010.

1. How Have U.S. Support Requirements and Corresponding Resource Base Evolved?

a. Past U.S. Support Requirements and Resources

The following quote summarizes the size and corresponding resources required during the Cold War era:

During most of the Cold War years, the United States pursued a strategy of containing the Soviet Union. In 1985, America appropriated about \$400 billion for the Department of Defense (in constant, fiscal year 1997 dollars), which constituted 28 percent of our national budget and 7 percent of our Gross National Product. We had more than 2.2 million men and women under arms, with about 500,000 overseas, 1.1 million in the Reserve forces, and 1.1 million civilians in the employment of the Department of Defense. Defense companies employed 3.7 million more and about \$120 billion of our budget went to procurement contracts. (Cohen, 1997, p. 1)

b. Current U.S. Support Requirements and Resources

The end of the Cold War has caused significant changes in the outlook of the relative importance of the military in comparison to other national interests. Many critics consider the United States military too large for the country's current needs. Their concern, given the loss of our competitive Cold War enemy, is that the large discretionary funding allocated to the military should be utilized elsewhere: e.g., schools, health programs, etc. (Federation of American Scientist Military Analysis Network Homepage, 1995, p. 3) This concern, combined with the current emphasis on balancing the national budget, has caused the military budget to come under heavy scrutiny.

The glory days of the Reagan and Bush eras are over; the Department of Defense is not likely to see peacetime spending of \$300 billion annually again in the foreseeable future.

The reduced Cold War threat and the tightening of the U.S. economic belt have significantly impacted the defense budget and DoD structure. The reduced budget of \$250 billion is only 15 percent of the national budget and 3.2 percent of the U.S. Gross National Product. Since 1985, the proposed "right-sizing" of the Department of Defense has resulted in the following reductions (Table 1) to occur:

Table 1: Comparison of DoD Between 1985 and 1997

Category	1985	1997	% Reduction
Defense Budget	\$400 billion (FY 97 \$)	\$250 billion	33%
Force Structure			33%
Procurement Programs	\$120 billion	\$44 billion	63%
Military Personnel	2.2 million	1.45 million	34%
Overseas Personnel	500,000	200,000	60%
Reserve Forces	1.1 million	900,000	18%
DoD Employed Civilians	1.1 million	800,000	27%
Defense Company Employment	3.7 million	2.2 million	41%

(Cohen, 1997, p. 1)

2. Has This Drawdown Effected Readiness?

a. Past Effects

America has faced military drawdowns in the past but, has suffered because of poor planning and execution of these drawdowns. Painful memories of these post-drawdowns

of forces remain vivid to many senior military leaders. "After both World Wars, Korea, and Vietnam, forces went hollow as resources were eliminated faster than force structure." (Cohen, 1997 p. 25) The hollowing out of the forces was tolerated because many non-military planners felt that a rapid build-up could be instituted in time of need. However, contrary to many beliefs, military readiness is not something that can be achieved instantaneously. It takes the judicious use of resources over time to develop and sustain ready forces. To quote one source:

It takes 20 years to develop senior military leaders, more than 10 years to build modern infrastructure, five to 10 to develop and field technologically superior equipment, and one to two years to develop a sustainment program to provide trained and ready units. (Cohen, 1997, p. 26)

b. Current Effects

With the end of the Cold War, the Department of Defense is determined not to repeat the errors of the past. As General John Shalikashvili, Chairman of the Joint Chiefs of Staff, stated:

What an extraordinary success this drawdown has been. For the first time in our history, we have been able to reduce as significantly as we have reduced without taking a nose-dive in readiness While we are considerably smaller today than we were when the Cold War ended, pound for pound we are as ready today as we ever have been. (Cohen, 1997, p. 25)

Defense analysts' views strongly differ over this opinion. Some argue that there is growing evidence from

numerous sources that United States Military readiness is not as high as heralded. The Honorable Floyd D. Spence, Chairman of the House Committee on National Security in his 1994 review of military readiness reported:

... wholesale categories of combat units were managing to preserve short term readiness only through engaging in a desperate 'shell game' with dwindling resources. (Spence, 1997, p. 1)

In his most recent review, Chairman Spence confirmed that the "... indicators of a long-term systematic readiness problem are far more prevalent than they were in 1994." (Spence, 1997, p. 1) In September, 1994 Senator John McCain (R-AZ) published a lengthy report chronicling, on the basis of congressional testimony from members of senior military officers, a myriad of serious deficiencies reflecting the sharply degraded readiness and sustainability of the nation's armed forces.

(1.) What is Causing the Strain on U.S. Resources and Readiness? Many analysts believe that the major cause is the continued high operational tempo for the military to participate in missions, especially contingency operations, "... promoting democracy abroad", and maintaining the U.S. role as a world leader. These calls for action continue to be answered proudly by the U.S. military. However, with the high number of requirements placed on the armed forces and the constraints on funding, resources have been significantly stretched. To meet the logistical requirements overseas in support of these

missions, the participating U.S. military services have had their state-side operating and maintenance funds drastically cut. Operation Restore Hope in Somalia, for example, caused 1st Marine Division, 1st Marine Air Wing, and 1st Force Service Support Group to shift resources until a supplemental appropriation could be passed to compensate for some of the resources used supporting this mission. The Marine Corps, like the other services, had to support this protracted humanitarian operation with internal funding until supplemental funding was passed. Even after the supplemental bill was passed, it did not cover all operating costs. The Marine Corps absorbed significant portions of these costs. Secretary of Defense Cohen illustrates the effects on readiness of these contingency operations as follows:

By their very nature, contingency operations are unforeseen. The Department [of Defense] is thus unable to program or budget for these operations. When the contingency occurs, the Department must fund the operation by reallocating other funds. Contingency costs normally occur within the operation and maintenance appropriations and must be absorbed unless they can be offset from investment appropriations (procurement and research and development) via a reprogramming action. Since most of the military personnel and Operation and Maintenance (O&M) appropriations, comprising nearly 63 percent of the defense budget, are used to support day-to-day fact-of-life requirements and maintain high readiness postures, investment accounts are the most likely source of funds to be reprogrammed to support contingency operations.

Another dimension of the problem with funding contingencies is the timing of the operations; the later an operation occurs during the fiscal year, the less flexibility the Department has in reprogramming. **The bottom line of the funding reality is that contingencies kill readiness.** By the fourth quarter of the fiscal year, the only places from which funds can be diverted are the readiness accounts that support training and maintenance. (Cohen, 1997, p. 29)

Additionally, outside of the direct costs associated with supporting these contingency operations are the indirect costs accumulated with increased wear and tear on machinery. High operational tempos prematurely age equipment, thus causing increased operating and maintenance costs. This fact, combined with the tightening budgetary conditions, compounds the already stretched logistical resources available to the military.

(2.) Will This Use of Military Resources Change? The current high pace of operations for the Armed Forces is expected to continue for both international and national reasons. The 1996 National Security Strategy, *A National Security Strategy of Engagement and Enlargement*, outlined that to maintain U.S.' leadership role in the international community the U.S. Armed Forces can expect approximately the same operational tempo in the future. (Clinton, 1996, preface)

President Clinton has stated, "Protecting our nation's security -- our people, our territory and our way of life -- is my Administration's foremost mission and congressional duty." (Clinton, 1996, p. i) Focusing on the

new threats and new opportunities, President Clinton's goals, are:

- To enhance our security with military forces that are ready to fight and with effective representation abroad.
- To bolster America's economic revitalization.
- To promote democracy abroad. ." (Clinton, 1996, p. i)

Most citizens agree that the first two goals are consistent with protecting our nation's security and support American military readiness. Some debate occurs over the use of military resources in pursuit of international economic status. One case in point would be the impact of Iraq's control of Kuwait's oil fields. It has been shown that the economic impact of this hostile action would not truly have affected the livelihood of Americans over the long-term as much as initially claimed. One distinguished economist stated, "The annual cost to the U.S. economy of doing nothing in the Persian Gulf would be at most half of 1 percent of our gross national product, and probably much less." (Henderson, 1990, p.1) Although President Bush used this as a catalyst for action, supporting democracy abroad and acting as a world leader were more predominant reasons for American intervention in Southwest Asia. The degree in which the U.S. pursues the third goal of "promoting democracy abroad", however, draws the most heated debate from individuals wishing to have a smaller defense force and budget.

Although proponents acknowledge that the United States, as a great power, possesses a special responsibility to the world, they also point out that the U.S. must carefully choose what missions we support. (Isenberg, 1995, p. 2) Failure to do so will result in a severe hampering of our ability to maintain readiness and prepare for the future, they believe. General Colin Powell, former chairman of the Joint Chiefs of Staff, stated in 1992, "Although policy makers pay lip service to the reality that the United States can no longer be the world's policeman, U.S. actions seem to belie such statements of restraints." Maintaining America's proud tradition as the premier leader in world security affairs carries a high price tag. Other critics question why the U.S. does not pass on this responsibility and its associated costs and allow other countries and organizations, such as the United Nations, to shoulder them. In his National Security Strategy, President Clinton reiterated what many advocates have in the past proclaimed:

The United States recognizes the line between our domestic and foreign policies is disappearing -- the boundaries between the threats that start outside our borders and the challenges from within are diminishing

... that we must revitalize our economy if we are to sustain our military forces, foreign initiatives and global influence, and that we must engage actively abroad if we are to open foreign markets and create jobs for our people.

... that our goals of enhancing our security and bolstering our economic prosperity democracy are mutually supporting.

... U.S. leadership and our engagement have never been more important: if we withdraw from this world today, our citizens will have to pay the price of our neglect. (Clinton, 1996 preface).

As a world leader, the U.S. relies heavily on the capabilities of our military forces. The threats faced today requiring the use of the military are more diverse than in the past. Threats challenging our security and our international role as a leader include: spreading ethnic conflict, rogue terrorist state violence, proliferation of weapons of mass destruction, and large scale environmental degradation exacerbated by rapid population growth. All of these threaten to undermine political stability in numerous countries and regions.

B. HOW IS DOD GOING TO PREPARE THE MILITARY FOR FUTURE CHALLENGES?

The United States will continue to be the international leader and will continue to fully utilize its military. The key question thus becomes, "How should the Department of Defense proceed and what will be our template to success?" Secretary Cohen answered this question in *The Report of the Quadrennial Defense Review* (QDR) .

The first and most visible aspects of our overall plan to re-balance our defense programs are necessary modest reductions in military end strength and force structure. These reductions are offset in part by enhanced capabilities of new systems and streamlined support structures. The savings that will result, combined with the program stability we can achieve from realistic expectations, will enable us to pay for the transformation of our forces required by the strategy. To preserve combat capability and readiness, the Services have targeted the reductions by streamlining infrastructure and outsourcing non-military-essential functions. The result is a balanced, flexible force that has sufficient depth to support the strategy, that matches structure to end strength so that hollowness does not set in, and that will continue to evolve toward our Joint Vision 2010 capabilities. (Cohen, 1997, p. 5)

1. The Goal of Meeting the Planned Template of Joint Vision 2010

The successes of U.S. joint warfighting fill the pages of history from the Revolutionary War to the present. Joint operations, such as the invasion of Normandy, landing at Inchon, and Desert Storm, have been pursued to "coordinate the combat capabilities of the Services and allies or coalition partners to achieve the greatest possible military advantage." (Joint Doctrine Story, 1997, p. 1) Though the U.S. military has a rich and successful history of joint warfighting, emphasis on the formal development of joint doctrine is relatively new. Prior to 1986, no single individual or agency had overall responsibility for joint doctrine. The Goldwater-Nichols Department of Defense Reorganization Act of 1986 made the Chairman of the Joint Chiefs of Staff singularly responsible for "developing

doctrine for the joint employment of the armed forces.” (“Joint Doctrine Story”, 1997, p. 1) The goal of this joint planning is to maximize the unique capabilities of each of the Services. In effect, joint warfare allows “a synergistic force of significantly greater joint combat power than if each Service had been employed individually against the same enemy”. (“Joint Doctrine Story”, 1997, p. 1) Although not directly stated, this “synergistic” combination is not only the most effective but also the most efficient in terms of resources.

Joint Vision 2010 is General John M. Shalikashvili's, the current Chairman of the Joint Chiefs of Staff, “conceptual template” for how America's Armed Forces will use resources, including the innovation of people and leveraging of technology, to achieve new levels of effectiveness in joint warfighting. This focused approach, though common direction and new operational concepts applied within a joint framework, are intended to achieve the dominance across the range of military operations that will allow the U.S. to meet its uncertain and challenging future. (Shalikashvili, 1996, p. 1) Joint Vision 2010 realizes,

The American people will continue to expect us to win in any engagement, but they will also expect us to be more efficient in protecting lives and resources while accomplishing the mission successfully. (Shalikashvili, 1996, p. 8)

This vision of future warfighting embodies the improved capabilities available in the information age and is based upon four operational concepts; defined as follows:

1. **Dominant Maneuver** - The multidimensional application of information, engagement, and mobility capabilities to position and employ widely dispersed joint air, land, sea, and space forces to accomplish the assigned operational tasks. (Shalikashvili, 1996, p. 20)

2. **Precision Engagement** - A system of systems that enables U.S. forces to locate the objective or target, provide responsive command and control, generate the desired effect, assess levels of success, and retain the flexibility to re-engage with precision when required. (Shalikashvili, 1996, p. 21)

3. **Full Dimensional Protection** - To control the battlespace to ensure our forces can maintain freedom of action during deployment, maneuver and engagement, while providing multi-layered defenses for our forces and facilities at all levels. (Shalikashvili, 1996, p. 22)

4. **Focused Logistics** - Fusion of information, logistics, and transportation technologies to provide rapid crisis response, to track and shift assets even while enroute, and to deliver tailored logistics packages and sustainment directly at the strategic, operational, and tactical level of operations. (Shalikashvili, 1996, p. 24)

The first three concepts rely upon the fourth concept, "Focused Logistics", to ensure that Joint Vision 2010

becomes a reality. America has always boasted that its forces are the best equipped and most ready in the world. The Chairman of the Joint Chiefs of Staff acknowledged this in Joint Vision 2010:

However, this quality force has been achieved only at great expense and effort. It has required the creation of institutions and procedures, sharpened over more than two decades of experience, to develop these Armed Forces in the most effective and efficient manner possible. These institutions and procedures, and the high quality forces they have produced, remain at the very center of Joint Vision 2010. (Shalikashvili, 1996, p. 6)

2. Focused Logistics

How is this “Focused Logistics” becoming an actuality? Joint Vision 2010 states that the Department of Defense will meet this goal by:

- “The incorporation of new information technologies in logistics functions to transition from the rigid vertical organizations of the past.
- Creating modular and specifically tailored combat service support packages that evolve in response to the wide-ranging contingency requirements.
- Service and Defense agencies will work jointly and integrate with the civilian sector, where required, to take advantage of advanced business practices, commercial economies, and global networks.
- Active and reserve combat service support capabilities, prepared for complete integration into joint operations, will provide logistic support and sustainment as long as necessary.” (Shalikashvili, 1996, p. 24)

3. How Will the Office of the Secretary of Defense (Logistics) Assist in Meeting Challenge

It is important to note that military planners strongly bank on savings obtained through the increased efficiency, effectiveness, and streamlining of the logistics infrastructure and processes to fund critically needed modernization of the services.

To meet the demands of U.S. objectives and the requirements of Joint Vision 2010, Paul G. Kaminski, the Under Secretary of Defense (Acquisition and Technology) has developed a focused Logistics Strategic Plan. This plan includes the following mission statement:

- To provide responsive support to ensure readiness and sustainability for the Total Force in both peace and war. (Kaminski, 1997, p. 4)

His vision is that the DOD Logistics System will:

- Provide reliable, flexible, cost-effective and prompt logistics support, information, and services to the warfighters;
- Achieve a lean infrastructure.

It is intended that the DOD Logistics System will meet this vision by making selective investments in technology, training, process reengineering (including benchmarking), employing the most successful commercial and government sources and practices.

4. Key to Achieving Joint Vision 2010 - Business Process Reinvention

Business Process Reengineering, through select portions of a unit or entire organizations is one strategy being used to allow the DOD to meet the spectrum of objectives with fewer dollars. Business Process Reengineering (BPR) requires the fundamental rethinking and radical redesign of business processes to bring about dramatic improvement in performance. (Hammer, 1995, p. 24)

This concept of entrepreneurial government supports Department of Defense Reinvention Laboratory initiatives to assist the Department of Defense in preparing its Total Force for the future. The next chapter will present: key terminology, a reinvention overview, and the Clinton administration's plans for the improvements in business practices.

III. REINVENTION BACKGROUND

This chapter will discuss the origins of reinvention theory, key terminology, a synopsis of the accomplishments of NPR, and a review of the types and sizes of the Reinvention Laboratories initiating the entrepreneurial spirit.

A. INTRODUCTION

1. Is There a Need for Reinvention?

The tax revolt of the early 1980s, which cut nearly one out of every four dollars for state and local governments, sent a strong signal to the American government that its taxpayers would no longer support ineffective, obese organizations providing poor service. (Osborne, 1992, p. 16) This negative sentiment was echoed in numerous surveys conducted during the 1980s and early 1990s. The American public's confidence in the federal government had fallen to the lowest ever known. At the same time, the federal deficit ballooned to \$350 billion. Vice President Gore in his introduction to *From Red Tape to Results, Creating a Government that Works Better and Costs Less, Report of the National Performance Review*, reiterated some of the more salient negative opinions expressed by Americans across the nation in these surveys:

The average American believes we waste 48 cents of every dollar. Five out of six want 'fundamental change' in Washington. Only 20 percent of Americans trust the federal government to do the right thing most of the time -- down from 76 percent 30 years ago.

We all know why [this confidence in government is so low]. Washington's failures are large and obvious. For a decade, the deficit has run out of control. The national debt now exceeds \$4 trillion -- \$16,600 for every man, woman, and child in America.

But the deficit is only the tip of the iceberg. Below the surface, Americans believe lies enormous unseen waste. The Defense Department owns more than \$40 billion in unnecessary supplies. The Internal Revenue Service struggles to collect billions in unpaid bills. A century after industry replaced farming as America's principal business, the Agriculture Department still operates more than 12,000 field service offices, an average of nearly 4 for every county in the nation -- rural, urban, or suburban. The federal government seems unable to abandon the obsolete. It knows how to add, but not to subtract.

And yet, waste is not the only problem. The federal government is not simply broke; it is broken. Ineffective regulation of the financial industry brought us the savings and loan debacle. Ineffective education and training programs jeopardize our competitive edge. Ineffective welfare and housing programs undermine our families and cities. (<http://sunsite.unc.edu/npr/npintro.html>, 1995, p. 8)

As the Information Age pushed aside the Industrial Era, both public and private institutions were hit hard by the changing environment and demands of their customers. Global economic competition, rapid simultaneous access to information, customers lack of tolerance for poor quality or limited options, and significantly constrained resources all

drove the necessity for change. Institutions had to be efficient and adaptive to survive. Private corporations that did not adapt quickly went out of business; governmental organizations, with their stable resource base, were more fortunate. As a result, "...many American corporations have spent the last decade making revolutionary changes: decentralizing authority, flattening hierarchies, focusing on quality, getting close to the their customers -- all in an effort to remain competitive in the new global marketplace." (Osborne, 1992, p. 14) "The past decade has witnessed profound restructuring: In the 1980s, American corporations . reinvented themselves; in the 1990s, governments are struggling to do the same." (<http://sunsite.unc.edu/npr/npintro.html>, 1995, p.8)

From the 1930s through the 1960s, federal organizations were built large with top-down, centralized bureaucracies.

They were patterned after the corporate structures of the age: hierarchical bureaucracies in which tasks were broken into simple parts, each the responsibility of a different layer of employees, each defined by specific rules and regulations. With their rigid preoccupation with standard operating procedure, their vertical chains of command, and their standardized services, these bureaucracies were steady -- but slow and cumbersome. (<http://sunsite.unc.edu/npr/npintro.html>)

These top-down bureaucracies do not work well in today's world of rapid change, lightning-quick information technologies, tough global competition, and demanding

customers. (<http://sunsite.unc.edu/npr/npintro.html>, 1995, p. 9)

2. Why Does the Federal Government Have a Greater Challenge in Implementing Change?

Individuals or groups attempting to change inefficient federal organizations have their work cut out for them. As Indianapolis Mayor William Hudnut best described the challenges in a 1986 speech, "In government, the routine tendency is to protect turf, to resist change, to build empires, to enlarge one's sphere of control, to protect projects and programs regardless of whether or not they are any longer needed." (Osborne, 1992, p.32)

Additionally, unique challenges, normally not faced by their private counterparts, stand in the way of individuals attempting to reinvent government. These additional obstacles are:

a. Federal organizations are monopolies.

Federal government organizations have a captive audience. Organizations like the Internal Revenue Service and the air traffic control have no competitors. Additionally, other federal organizations have either legislative, internal regulations, or informal policies that direct them to use other federal organizations for support requirements, e.g. Defense Finance and Accounting Service (DFAS).

b. **Few incentives to improve, innovate or be efficient.**

The majority of governmental organizations have limited incentive to improve. Most improvements or innovative ideas come with a good degree of risk and corresponding cost. Any reductions, whether in organizational structure, manpower, or elsewhere, resulting in savings are generally only enjoyed over the short term (primarily the particular fiscal year) by the implementing organization. Organizational savings are diverted or unrealized instead of benefit sharing with the initiating institution. Private industry, however, can more easily shift the savings and reinvest back their successes back into their respective organizations. Although there are some small monetary rewards given to successful organizations, they generally do not offer much compensation for all of the front-loaded or initiation costs of implementing the change.

c. **Employees have virtual lifetime tenure, regardless of performance.**

The time tested adage of once you have a government job, you have it for life is a truism. The existing government system makes removing substandard performers extremely difficult. Additionally, the effect of implementing change or restructuring the workforce with a well establish senior hierarchy is a more rigorous challenge.

d. Success offers few rewards.

In the federal government, superior performance or resourceful ideas resulting in high dollar savings, man power reductions, or improved efficiency, by and large, are rewarded with non-monetary awards (citations, plaques, and etc.). Strong incentives, like expeditious promotions and significant cash bonuses, are not common practice in the government. Promotion is traditionally based on a protracted progression based on years of service. Promotion often comes with retirement or structure growth. In times of downsizing, promotion often becomes stagnant.

e. Federal monopolies receive their operating money from budgets determined by Congress without direct input from their customers.

Consequently, the organizations work to please congressional appropriations subcommittees vice the true customers -- the public.

f. Continuous public scrutiny and political involvement.

Most individuals or groups attempting change in the private sector can proceed without any (or minor) interference providing they achieve the results expected. Federal organizations, however, almost never have carte blanche in implementing change. Too many stakeholders continuously fight to achieve what is best for their interests at every turn. Additionally, because of their high visibility and justifiable public

interest, media interpretation of decisions or outcomes can have dramatic effects on individual careers, agency development or existence. Politics and media often blend together to intensify unsuccessful attempts at improvement into scandalous failures.

All of these barriers add up to the American taxpayers paying more for bloated, inefficient organizations providing, at times, poor service. These inherent problems with the government also increase the difficulty for those attempting to institute positive change.

3. The Solution: Entrepreneurial Government

The pressure on federal organizations and their responsible leaders to optimally utilize taxpayer dollars continues to increase with the shrinking budget and steady demands for services. As President Clinton stated in his 1993 revision of the National Performance Review report:

We can no longer afford to pay for and get less from our government. The answer for every problem cannot always be another program or money. It is time to radically change the way government operates, to shift from top-down bureaucracy to entrepreneurial government that empowers citizens and communities to change our country from the bottom up. We must reward the people and ideas that work and get rid of those that do not. (<http://sunsite.unc.edu/npr/npintro.html>, 1993, preface, p. 1)

"Working smarter, not harder" is not just a snappy phrase but rather a mind set. These organizations are now

judged on their achievements to improve the efficiency and responsiveness to their customers.

Osborne and Gaebler in their book, *Reinventing Government, How the Entrepreneurial Spirit is Transforming the Public Sector*, believed that government did not need to be a excessively large and inefficient bureaucracy. "Instead, it can govern in the true sense of the word, by tapping the tremendous power of the entrepreneurial process and the force of the free market." (Osborne, 1992, cover) What is entrepreneurial government? The word entrepreneur was coined by the French economist J.B. Say as a person who "shifts economic resources out of an area of lower [productivity] and into an area of higher productivity and greater yield." (Osborne, 1992, p. xix) The authors have created a conceptual model that encourages governmental organizations to act like private organizations, consistently utilizing their resources judiciously in new ways to obtain maximum efficiency and effectiveness. In this model ten characteristics of entrepreneurial government are stated as follows:

1. Competing service providers between government and business organizations.
2. Empowering citizens by pushing control from bureaucracies to communities.
3. Measuring performance outcomes vice inputs.
4. Creating mission or goal driven institutions vice rules and regulations enforcers.
5. Redefining clients as customers and offering choices among service providers.

6. Preventing problems before they emerge vice applying bureaucratic services to problems.
7. Earning money vice just spending it.
8. Decentralizing authority.
9. Choosing market mechanism over bureaucratic mechanisms.
10. Catalyzing public, private and voluntary sectors into action to solve problems.
(Osborne, 1992, p. 19-20)

Recognizing the importance of utilizing this innovative type of thinking, David Osborne was asked by the President to act as an advisor and launch the initial training session for the newly formed National Performance Review (NPR) staff.

B. REINVENTION TERMINOLOGY

Before addressing the accomplishments of the National Performance Review, it is important to define some key terms. In studying the effects of the new public management and the entrepreneurial spirit it is important to ensure all personnel attempting to change their organizations use the same jargon and possess the same mental framework. Many people and organizations, both governmental and private, misuse these terms. The five terms used frequently are defined more specifically below:

1. Restructuring

- Cut everything in the organization that does not contribute value to the services delivered to the customers.

2. **Reengineering**

- Start over rather than trying to "fix" existing processes with "band aid" solutions.
- Think about work processes and not functions and positions on the organizational chart.
- Focus on improving service quality, reduced cycle time and costs.
- Take advantage of new computer and other technologies.

3. **Reinvention**

- Strategic planning and market research to move the organization toward new service delivery modes and markets.
- Reinvent the service market strategy.
- Develop a long range market and organization planning process.

4. **Realignment**

- Change the organizational structure to match the new market and service delivery strategy.
- Move to contingency organization and service delivery relative to new market and service strategy and opportunities.
- Match organizational structure to strategy at all levels as a means for motivating management and employees.

5. **Rethinking**

- Better, faster evaluation of service performance and quicker feedback on improved market strategy and service delivery.
- Think creatively about new approaches to service delivery.
- Willingness to pilot test proposed innovations.
- "Quick analysis" of results for decision making and change.
- Sorting out real problems from symptoms and managing people to solve real problems quickly.
- Creating the self learning and adapting organization. (Jones and Thompson, 1997, p. 17)

C. NATIONAL PERFORMANCE REVIEW (NPR)

1. History and Objectives of NPR

In March of 1993, President Clinton commissioned the National Performance Review (NPR) with its purpose being outlined as follows:

Our goal is to make the entire federal government both less expensive and more efficient, and to change the culture of our national bureaucracy away from complacency and entitlement toward initiative and empowerment. We intend to redesign, to reinvent, to reinvigorate the entire national government. (Gore, 1993, p.1)

President Clinton asked Vice President Gore to spearhead this movement and figure out how to make the government work better while costing less. The President gave the review a six-month deadline, reporting the results to him by September 7, 1993. In the report, Vice President Gore concluded that the "long-term commitment to change" answer lay in reinventing government from the ground up by:

- Putting customers first.
- Empowering public employees to acquire and manage resources.
- Cutting red tape.
- Using common sense.
(<http://sunsite.unc.edu/npr/nprintro.html>, 1993, p. 1)

Vice President Gore's findings were presented in the original National Performance Review report, *From Red Tape to Results* issued in September 1993, and in 33 accompanying

reports that amplify and clarify the NPR vision. Taken together these reports total more than 1,900 pages. They focus on changing the culture of the federal bureaucracy (*Improving Customer Service, Creating Quality Leadership and Management, Transforming Organizational Structures, and Streamlining Management Control*), reinventing processes and systems (*Reinventing Human Services Management, Mission-Driven, Results-Oriented Budgeting, Improving Financial Management, Reinventing Federal Procurement, Rethinking Program Design, and Reengineering through Information Technology*), restructuring relationships between the federal government and the states and the private sector, and individual agencies. The NPR office has also published three yearly updates, most recently, *The Best Kept Secrets in Government*, released in September, just before the last presidential election.

2. Results and Savings from NPR

Although the actual savings from the NPR initiatives have fallen short of the projected estimated savings (see Table 2), the savings, nevertheless, are substantial. The National Performance Review has suffered some criticism for not meeting the lofty savings it has anticipated. The 1993 NPR report initially projected savings of over \$2 trillion from its initiatives. (Gore, 1993, p. 136-137) In the 1996 report, *The Best Kept Secrets in Government*, the Clinton administration claimed a savings of \$118 billion. A total of 97.4 billion was directly contributed by NPR while an

additional total of \$21.5 billion in savings came from agency actions beyond the NPR. (The Federal Communications Commission realized an income of \$20.3 billion from auctioning wireless spectrum -- broadcast -- licenses, and the General Services Administration restructuring of federal construction projects saved \$1.2 billion) (Gore, 1996, p. 1) The largest financial savings to date, about \$16 billion, have come from the reduction of 131,000 civilian and 223,400 military personnel from FY 1993 to FY 1995. (Gore, 1996, p. 80) Many critics argue that they attribute these savings largely to the ending of the cold war vice the efforts of the NPR process. Regardless, the congressional efforts and Clinton Administration's NPR initiatives have in fact accelerated the timeline of the personnel reductions and have increased the total numbers associated with these reductions.

Table 2. 1993 Estimated vs. Actual Savings from NPR Recommendations (in billions of dollars)

	FY95	FY96	FY97	FY98	FY99	Total
1. Streamlining the Bureaucracy Through Reengineering						
Savings estimated in September 1993 report	5.0	5.8	7.4	9.5	12.7	40.4
Savings based on actions to date	4.4*	8.2	9.8	11.5	12.5	46.4
2. Reinventing Federal Procurement						
Savings estimated in September 1993 report	0	5.6	5.6	5.6	5.7	22.5
Savings based on actions to date	0.7	2.8	2.8	2.9	3.1	12.3
3. Reengineering Through Information Technology						
Savings estimated in September 1993 report	0.1	0.5	1.2	1.6	2.0	5.4
Savings based on actions to date	0	0	0	0	0.4	0.4
4. Reducing Intergovernmental Administrative Costs						
Savings estimated in September 1993 report	0.5	0.7	0.7	0.7	0.7	3.3
Savings based on actions to date	0	CBE	CBE	CBE	CBE	CBE
5. Changes In Individual Agencies						
Savings estimated in September 1993 report	7.0*	6.2	7.0	7.3	8.9	36.4
Savings based on actions to date	4.3*	3.9	2.0	2.1	2.1	14.4
Savings pending in legislation	0	0	0.4	0.4	0.5	1.3
Total Savings for NPR Phase 1						
Savings estimated in September 1993 report	12.6*	18.8	21.9	24.7	30.0	108.0
Savings based on actions to date	9.4*	14.9	14.5	16.4	18.2	73.4
Savings pending in legislation	0	0	0.4	0.4	0.5	1.3

CBE=Cannot be estimated at this time; estimates will be developed later.

*Figures include some FY 1994 savings.

Note: Details may not equal totals due to rounding.

(Gore, 1996, p. 170)

IV. REINVENTION IN THE DEPARTMENT OF DEFENSE

The NPR has made twelve recommendations that are specific to the Department of Defense (DOD). These are in addition to the Bottom up Review¹ and the Acquisition Reform Initiatives²:

- Rewrite Policy Directives to Include Better Guidance and Fewer Procedures: Reduce administrative burden and unnecessary regulatory controls.
- Establish a Unified Budget for the DoD: Give commanders flexibility to set priorities, solve funding and unplanned requirements at the lowest appropriate operational level.
- Purchase Best Value Common Supplies and Services: Buy best value supplies from public, private, or nonprofit sources.
- Outsource Non-core DoD functions: Focus on performing core functions.
- Create Incentives for DoD to Generate Business: Allow Corps of Engineers to receive revenue for certain commercial applications and installation commanders generate income from solid waste reduction and recycling. Projected savings of \$500 billion.

¹ The Bottom Up Review looked at DoD force structure requirements. It produced a total of \$79 billion in budget in savings through 1997.

² These reforms called for the use of commercial buying practices and information technology to save money and improve product quality. They apply to the whole of the federal government and just the DoD. However, DoD accounts for 85 percent of federal government purchases.

- Establish a Defense Quality Workplace: Use Quality management concepts at all levels of DoD.
- Maximize the Efficiency of DoD Health Care Operations: Use technology to improve care at DoD facilities and reduce training costs. Projected savings of \$350 billion.
- Give DoD Installation Commanders More Authority and Responsibility Over Installation Management: Entrepreneurial management will better manage resources and improve service to employees.
- Reduce National Guard and Reserve Costs: (1) Limit compensation to federal employees on reserve duty to the greater of civilian or reserve pay or allow reservists to take annual leave. (2) Limit housing allowance to reservists who actually bring dependents with them on assignment when no housing is provided. Projected savings on \$900 billion.
- Streamline and Reorganize the US Army Corps of Engineers: Implement 1992 proposal to reduce from eleven to six division offices and offer engineering and technical expertise to other agencies. Projected savings of \$68 billion.

The success of these and other NPR initiatives is especially important because Congress and the Clinton Administration are relying on the savings they produce to cut defense budgets without impairing the capability of the armed forces to carry out their assigned missions. It would be a serious blow if these savings failed to materialize. Because reducing overheads is in several instances the key to these savings, it is somewhat disturbing that reductions in overheads have to date lagged reductions in force structure.

A. BACKGROUND ON REINVENTION IN THE DOD

The DoD has accomplished major changes in response to the NPR and on its own initiative across programs,

functional areas, and organizational units. Innovations in procurement, financial management, personnel, privatization, and logistics have been implemented. DoD has earned over 75 Hammer Awards awarded by the NPR to recognize organizations that have made exemplary improvements. (Gore, 1996, p. 223) The "\$6.00 hammer with a little red, white, and blue ribbon is the Vice President's symbolic answer to the \$400.00 hammer of yesterday's government". (Gore, 1996, p. 223)

DoD has also received 10 Presidential Quality Awards and Quality Improvement Prototype Awards. (DoD, 1996, p. iii) In 1996, DoD was awarded the only Presidential Quality Award in the federal government for Army Research, Development and Engineering Center in Picatinny Arsenal, New Jersey. (DoD, 1996, p. iii) The Center designed lethal tank-fired munitions and reduced training costs, energy expenditures, hazardous wastes storage and overhead costs. DoD won an additional seven of the nine Quality Improvement Prototype Awards presented in 1996. (DoD, 1996, p. iv) Winners included the Defense Mapping Agency for reducing management layers from 11 to 3; the Naval Station, Mayport, for reducing initial check-in-stations from 24 to 8; and the Army's Communication Electronics Command Logistics and Readiness Center for reducing acquisition lead times 25 percent and back orders almost 50 percent. Finally, the Defense Commissary Agency (DeCA) became the government's first Performance Based Organization (PBO) in October 1996. (DoD, 1996, p. iv) PBO's are business-type operations that

are given great autonomy and flexibility to manage their operations. In addition to relief from Office of Personnel Management (OPM), General Services Administration (GSA), and DoD rules, PBOs can hire a chief executive under a performance contract for a fixed term and pay higher salaries and bonuses than most government organizations. These are just a few examples that demonstrate DoD commitment to the goals of NPR.

B. REINVENTION LABS

To a remarkable degree, the reinvention movement relies on the initiative of front-line employees. The bottom-up part of the reinvention effort is concentrated in approximately 300 Reinvention Laboratories throughout the federal government that are located in DoD. These labs are working on all kinds of innovation: reengineering around information technology, empowering employees and customers, using the private sector to achieve public purposes, promoting internal and external competition, taking new approaches to internal management -- delegation of authority to staff, continuous improvement, Total Quality Management (TQM), self-managed teams, participatory management, greater reliance on incentives, flatter organizations, cross-training, and geographic decentralization -- all with the objective of improved consumer service and enhanced mission performance at a lower cost.

1. Number and Size of DoD Reinvention Laboratories

DoD labs range in scale and scope from small single function offices located at a single site to large and complex multi-functional, multi-site organizations, such as the Army Forces Command (see Table 3). Based on the 88 (of approximately 120) Reinvention Laboratories in the DoD that responded to a survey conducted in 1996 by the Office of Performance Improvement and Management Reengineering within the Office of the Under Secretary of Defense, Comptroller, DoD Reinvention Laboratories come in all sizes.

Most multi-facility/multi-installation Reinvention Laboratories were designated as large scale labs; those which comprised a single facility or installation were counted as medium; those which comprised only a portion of single facility were counted as small.

(http://www.dtic.dla.mil/npr/lab_initiatives.html)

Table 3. DoD Reinvention Laboratories

<u>Organization</u>	<u>Total</u>	<u>Small</u>	<u>Medium</u>	<u>Large</u>
Air Force	7	3	1	3
Army	22	11	4	7
Navy	14	3	8	3
Marine Corps	12	2	10	0
Central Imagery Office	1	0	0	1
Defense Finance & Accounting Service	4	0	2	2
Defense Investigating Service	1	0	0	1
Defense Logistics Agency ^a	18	0	6	12
National Security Agency	6	6	0	0
DoD Science & Technology Labs ^b	3	2	1	0
Totals	88	27	32	29

a. Joint DLA and DCAA "Reducing Overnight Costs" Reinvention Laboratory is included in DLA total.

b. Included 26 individual sites (1 DoD, 5 USAF, 15 USA, and 5 USN). (Gosnell, 1997, p. 48)

2. Functional Classification of DoD Reinvention Laboratories

Again, according to the Office of Performance Improvement and Management Reengineering survey, Reinvention Laboratories perform a variety of support and training functions (see Table 4)). The greatest number of Reinvention Laboratories is in the Administrative Support area. This group includes 34 laboratories or 40 percent of

the total. Next come logistics organizations with 21 laboratories (24 percent).

Table 4. DoD Reinvention Laboratories by Functional Classifications

Function	Total	USA	USAF	USN	USMC	DLA	Other
COMBAT	3	2	0	0	1	0	0
LOGISTICS	21	2	3	3	2	10	1
CONTRACTING	5	0	0	0	0	4	1
ACQUISITION	5	3	0	2	0	0	0
FINANCIAL MANAGEMENT	2	0	0	0	0	0	2
INFORMATION TECHNOLOGY	4	0	2	0	0	2	0
RDT&E	2	2	0	0	0	0	0
HUMAN RESOURCES	7	5	0	1	0	0	1
EDUCATION & TRAINING	5	2	0	2	0	0	1
ADMINISTRATIVE SUPPORT	34	6	2	6	9	2	9
Total	88	7	14	12	18	15	22

(Gosnell, 1997, p. 49)

Note 1: The other group includes all of the smaller DoD agencies and organizations.

3. Progress of DoD Reinvention Laboratories

By definition, a reinvention lab is place where experimentation takes place, where new practices, processes, and procedures are tried. Based upon self reports, some DoD Reinvention Laboratories have been able to do more than

others (see Table 5). About 40 percent believe they have been able to make significant changes in the way they do business; another 20 percent believe they have made some changes; the rest report that they have not done much.

Table 5. Reinvention Laboratories Level of Innovation

Organization	Total	Not Significant	Some	Significant
AIR FORCE	7	1	3	3
ARMY	22	11	3	8
NAVY	14	8	5	1
MARINE CORPS	12	7	2	3
CENTRAL IMAGERY OFFICE	1	0	0	1
DEFENSE FINANCE AND ACCOUNTING SERVICE	4	3	0	1
DEFENSE INVESTIGATIVE SERVICE	1	1	0	0
DEFENSE LOGISTICS AGENCY	18	0	4	14
NATIONAL SECURITY AGENCY	6	3	0	3
DoD SCIENCE & TECHNOLOGY LABS	3	0	1	2
Totals	88	34	18	36

(Gosnell, 1997, p. 51)

For the most part, these self-assessments closely track the reported accomplishments of the individual labs. All of those reporting significant progress also claimed measurable performance improvements; most of those reporting some progress could point to a well formulated plan of action and in many cases initial positive results from their efforts. Not surprisingly, the entities within the DoD that tend to encourage innovation (see Table 6) have the highest propor-

tion of labs reporting some or significant levels of innovation.

Table 6. DoD Reinvention Successes and Labs by Parent Organization

Organization	Labs	Successes Reported
AIR FORCE	7	37
ARMY	22	34
NAVY	14	8
MARINE CORPS	12	5
CENTRAL IMAGERY OFFICE	1	5
DEFENSE FINANCE & ACCOUNTING SERVICE	4	10
DEFENSE INVESTIGATIVE SERVICE	1	0
DEFENSE INTELLIGENCE AGENCY	0	2
DEFENSE LOGISTICS AGENCY	18	46
NATIONAL SECURITY AGENCY	6	5
CORPS OF ENGINEERS	0	37
DEFENSE CONTRACT AUDIT	0	7
DEFENSE COMMISSARY AGENCY	0	6
DEFENSE ADVANCED PROJECTS AGENCY	0	1
DEFENSE MAPPING AGENCY	0	3
DoD SCIENCE & TECHNOLOGY LABS	3	6
TOTALS	88	225

Table 6 cross-tabulates the 225 reinvention successes reported in the September 1996 report, Reinventing the Department of defense (DoD, 1996), and the 88 DoD reinvention labs by parent organization.

Table 6 makes it abundantly clear that a lot of reinvention has taken place in the DoD outside of formally designated reinvention labs. TQM is one example. All Air Force units use the Malcolm Baldridge criteria to prepare

self assessments for the Inspector General. The criteria have seven main categories: leadership, information and analysis, strategic planning, human resource development and management process management, business results, and customer focus and satisfaction. TQM training and awareness is now part of all Air Force education courses from basic training through the Air War College. The DLA commitment to TQM may exceed even that of the Air Force.

Nevertheless, although reinvention successes have been identified at many organizations that are not formally designated Reinvention Laboratories, the labs play a distinctive role in the reinvention effort. Reinvention Laboratories are the chief means by which a new management culture can be inculcated in agencies that have been slow to embrace wholesale managerial change. Those who succeed can then be promoted, made "heroes" and coaches. Others can be given time to readjust, and roadblockers must, of course, eventually be removed if reinvention is to succeed throughout government. From this standpoint, waivers granting the labs freedom from administrative rules and regulations may be seen as the lifeblood of reinvention.

DoD has a policy, set by Secretary Perry's Memo dated 28 March 1994, of being committed to granting well-justified requests for waivers that are consistent with the law. However, waivers have not been granted on a broad scale. It is very hard for bureaucratic organizations to motivate and sustain change. Traditions, procedures, and policies

militate against change and create an impression of intransigence even where top management is supportive.

4. The 1997 Reinvention Laboratories Symposium

The DoD Reinvention Labs Symposium took place January 27-31 at the Holiday Inn Westpark in Rosslyn, Virginia. The session on Monday the 27th was primarily introductory and featured presentations by the NPR's John Kamensky and Jeffrey Goldstein. The Tuesday session focused on Logistics Reinvention, with breakout sessions dedicated to multi-functional teaming, improving customer service, and reinventing service delivery. The Wednesday session focused on Contract/Acquisition Reinvention, with breakout sessions dedicated to commodity purchases, process reforms, and administering contracts. The Thursday session focused on Human Resources Reinvention, with breakout sessions dedicated to DoD Science and Technology Laboratories Personnel Demonstration Project, professional development improving personnel services to customers, and employee empowerment. The session on Friday featured an overview of the DoD accounting and financial management strategy from the standpoint of DFAS and discussions of using the Internet as a business process reengineering toolkit and how to set up a decision process for waivers.

The purpose of the 1997 DoD Reinvention Laboratories Symposium, sponsored by the Office of Performance Improvement and Management Reengineering within the Office

of the Undersecretary of Defense, Comptroller, was to share successes and failures, as well as to clear the air and improve the waiver process. The expressed objectives of the symposium included (Foster, 1997, pp. 1-2):

- Providing an opportunity for DoD Reinvention Laboratories to meet and exchange ideas about reinvention.
- Providing a forum for the transfer of knowledge and experience from successful labs to all DoD labs.
- Providing Reinvention Laboratories with the DoD corporate vision, strategy, and objectives in logistics, contracts/acquisition, human resources, and financial management.

Participating Reinvention Laboratories were asked to focus on process improvement questions such as (Foster, 1997, p. 3):

- What has been done to date?
- What has worked and what has not worked?
- What waivers have been requested?
- What waivers have been granted and which have been denied?
- What performance measures have been used?
- How can processes be improved?

The Office of Performance Improvement and Management Reengineering is the designated coordinator for the Department of Defense. A detailed list of all senior National Performance Review Department of Defense points of contact can be obtained from the DoD Reinvention Lab website at <http://www.dtic.dla.mil/npr/nprpocs.html>. In Chapter V, data from the following five major organizations and their respective senior lab representatives (see Table 7) will be

used for the trend analysis of success and barriers to success within the Department of Defense:

Table 7. DoD Reinvention Senior Lab Representatives

Organization	Point of Contact
USA	Randa Vagnerini Diane Farhat (labs & waivers)
USN	Steve Eisenberg (SecNav/MC) Manuel Pablo (labs & waivers)
USAF	Lt. Col. Rob McDaniel Maj. Mark Kuschel
USMC	Tommie Davis Tia Bowman
DLA	Ms. Dolores Carnegie

V. LOGISTICS REINVENTION

Chapter IV provided the background material on what the National Performance Review, via the efforts of the Reinvention Laboratories, is attempting to accomplish by instilling the entrepreneurial spirit, tapping the free market and benchmarking private industries' successes. Chapter V provides a brief background on the second of the two major forums (1997 Reinvention Lab Symposium and the Annual Logistic Business Reengineering Conference) used to aggressively implement logistics change. Chapter V then provides an analysis of the logistics survey data collected from "front-line" representatives to define the positive or negative trends faced by the Reinvention Laboratories. The chapter also analyzes and documents the trends that top level coordinators found in their service or agency's reinvention program and the subsequent lessons they have learned. It provides examples of success stories to be used as benchmarks as well as documents obstacles faced in attempting to change their organizations. In identifying both successful and unsuccessful initiatives, this thesis does not offer an independent assessment of self-reported accomplishments. Finally, Chapter V examines the specific accomplishments and savings of DoD Reinvention Laboratories in pursuit of Logistics initiatives and the necessary changes in rules, processes, and attitudes needed for DoD

Reinvention Laboratories to improve upon their current successes.

A. MEETING THE NEED FOR LOGISTICS REINVENTION

Department of Defense officials are placing immense emphasis on the need for reengineering and reinvention of logistics management. In addition to the DoD 1997 Reinvention Lab Symposium, an annual logistics business reengineering conference, sponsored by the Deputy Under Secretary of Defense (Logistics) in conjunction with the Naval Postgraduate School, has recently become instituted to gather the best and brightest industry and DoD representatives to share ideas. The 1996 meeting, held at the Hyatt Regency Monterey, California (adjacent to the Naval Postgraduate School) 28 April 1996 to 1 May, 1996 consisted of a three-day conference. The conference theme, articulated by John F. Phillips, the Deputy Under Secretary of Defense (Logistics), and David R. Whipple, Associate Provost for Innovation Director, IDEA, Naval Postgraduate School, was "Strategies for Success Into the Next Century". It focused on, "... today's efforts to bring logistics support into the future through modernized information systems and applications of lessons learned from industry." Presentations included status updates of the Department's transportation and medical logistics, and parallel industry automation efforts. Other topics included Continuous Acquisition and Life Cycle Support (CALS) business

strategies and TAV efforts in Bosnia. Similar to the Reinvention Symposium, the Logistics Conference provided an open forum for sharing the Department's effort to streamline the logistics infrastructure, reduce logistics response times, and to gain Industry's perspective.

To illustrate the importance and impact of logistics management within DoD, an entire day (day two of five) of the 1997 Reinvention Symposium was devoted to improving this area. The first speaker, Roy Willis, Principal Assistant Deputy Under Secretary of Defense (Logistics) opened with a presentation titled "Logistics Management - DoD Vision." With this presentation he set the stage with what DoD currently is facing and briefly described a few of the general ways logistics impediments will be managed. Willis began his presentation with the topic "Reinventing Logistics Engineering in the 21st Century". Projecting the future of the Defense and Logistics Budget, he observed that Department of Defense Logistics will be going through some substantial changes in the 21st Century. The DoD budget of approximately \$250 billion that ensures force readiness, modernization, quality of life and procurement of needed equipment will be reduced. A reduction of an estimated \$69 billion in funding by 2001 will cut heavily into the following areas:

- Military personnel
- Procurement (most drastic of cuts)
- Operations and Maintenance

Willis indicated the nature of the budget squeeze in O&M using logistics support data, e.g., type of equipment and the associated maintenance costs acceleration that is most pronounced for older equipment in their required protracted life cycle. For example, by the year 2010 the F-14 tactical aircraft will be 41 years old, the CH-47 helicopter will be 71 years old. By 2040 the B-52 bomber aircraft will be 94 years old and the KC-130 cargo aircraft will be 86 years old. The increased length of service causes higher operating costs due to equipment fatigue and the resulting requirement for increased maintenance actions. These costs continue to rise making it an uphill battle to support this aging and often less effective equipment. This fact, combined with the reality that new procurement and upgrading of existing equipment is currently too slow, means that the services may not be prepared for their missions in the future. For example, DoD currently is slated only to upgrade 3,000 of 14,000 tanks and Infantry Fighting Vehicles (IFV - Bradley) by 2010. "These problems alone indicate why we have to reengineer logistics," stated Willis.

According to Willis, reengineering in logistics will focus on research and development, moving to what is termed

open systems architecture. This concept of open systems architecture relies on incorporating long range planning into the construction of equipment and software so that new systems and components can be plugged in to upgrade equipment over its life time. Increased contractor logistics support, embedded training and advanced self-diagnostics also will contribute to reengineering. Equipment will be developed and installed to avoid the need for existing or increased maintenance personnel and to decrease down time. Application of new methods will be crucial in this effort.

Real time logistics control versus cumbersome long-term planning is an essential goal to be achieved. This requires new forms of control, planning, execution, monitoring, and replanning. Willis explained that "Ensuring the right amount, at the right time, right place, with the right stuff" requires a tremendous amount of support for the DoD force structure.

He then provided a second example that further amplified why logistics needs to make such a significant improvement in its business practices. Willis stated that in 1995 there were approximately 800,000 enlisted mechanics, and roughly 100,000 personnel in supply and acquisition related jobs. He provided the following statistics:

- 1 out of 3 enlisted personnel are mechanics,
- Mechanics average 2-3.5 hours of actual hands-on time due to other prerequisites (MOS proficiency,

rifle range, and other necessary training requirements),

- Due to this fact and other factors the cost to the government is approximately \$250.00/hr.

Willis noted the great need to simplify the logistics information systems. Currently, in DoD there are 6.3 million catalogue items, 2.2 billion logistics transactions/year, \$44 billion in wholesale logistics business conducted, and over 1000 stock locations. These stock locations only include the depots and supply installations only; not operational units. Better information systems are needed to improve transaction accounting from coding inputs to analysis of performance and outputs.

The procurement process also needs revision. Currently, procurement procedures are the same for all items (i.e., all are purchased for the long term even though some items may be consumed in one year or less and are small purchases relative to buying an aircraft or ship). Information technology is procured in the same manner. This is a major problem in that much hardware and software technology turns over every 18-20 months. Willis concluded that joint total asset visibility is desperately needed in logistics. Without this, many other processes cannot be reengineered. "If we do not do this then our logistics system will operate as if we are looking through soda straws." (Willis, 1997)

In the following sections, this thesis analyzes how reengineering and reinventing are intended to improve some of the weaknesses the Principal Assistant Deputy Under Secretary of Defense (Logistics) saw in procurement, by meeting logistical support requirements rapidly and, by instituting programs permitting DoD to shift money towards modernization programs.

B. LOGISTICS REINVENTION LAB SURVEY

1. Design of the Survey

In May, 1997, a survey (Appendix 1) was created by the researchers to obtain data from the front-line Reinvention Laboratories, conducting logistics initiatives, on both the reinvention and waiver processes. These two important areas of study were broken out to best analyze the strengths and weaknesses of the individual areas of research. There were numerous concerns in conducting the survey. The following paragraphs provide some of the concerns and what was done to overcome them.

a. *Preventing Bias Wording of the Survey*

When creating the survey, we attempted to word the questions in a manner that would not bias the answers provided by the Reinvention Laboratory representatives. The survey attempted to obtain both the positive and negative aspects the logistics and transportation reinvention laboratories met in pursuit of their attempts to institute

change. Some individuals might feel the survey looked for flaws vice positive results based on the wording. That is understandable. However, since the goals of this thesis as addressed in Chapter 1 were to:

- Analyze key aspects of success stories so that others may benchmark them.
- Determine any impediment trends to successful research efforts so that recommendations could be documented and forwarded to the Office of Performance Improvements and Management Reengineering, the Department of Defense Comptroller.

the researchers felt that the questions had to be constructed accordingly to obtain the required data.

b. Attempting to Keep Survey Brief

In attempting to obtain maximum response while minimizing the burden on the Reinvention Laboratories, the researchers sought to keep the survey as brief as possible. Whenever possible, the reinvention laboratories were asked to use already prepared information to amplify remarks. The objective of the survey was to obtain solid quantitative and qualitative data, yet, not have the labs recreate material already on hand.

c. Utilization of Likert Scale

A "Likert" scale was used for two of the eleven questions (question 5 - barriers to reinvention efforts and question 8 - barriers to waiver process). This assessment method not only provided quantitative data that could be

used for trend analysis but expedited the recipient's answering of the survey form.

For questions 5 and 8, a scale from 1 to 5, in increments of one, was used to allow the laboratory representatives to provide their estimation of how a particular category impeded either an aspect of the reinvention or waiver process. A "5" representing the greatest problem and a "1" the least problem.

d. Measures

The survey was tested for validity by first having five students with no knowledge of reinvention review the survey to judge whether it was understandable, direct, concise, and whether the questions were biased. From their comments, modifications were implemented. The revised survey questionnaire was then resubmitted to these same five students for additional comments. From this review, further modifications were made. The third step was to submit the survey to three individuals intimate with the reinvention and waiver processes. Revisions were made based on feedback from these three personnel and a revised copy was resubmitted to the three knowledgeable reinvention personnel for a critique. After the fourth review, the survey was submitted to the 226 Reinvention Laboratories points-of-contact currently on the reinvention master list provided by the Office of Performance Improvement and Management Reengineering.

(1.) Sampling Procedure. Due to the lower than expected survey response, (received 52 responses from the 226 possible reinvention lab points of contact -- of which only 27 were laboratories currently implementing waivers in areas associated with logistics or transportation) sampling was not done. Instead, all responses from the population were used.

(2.) Data Collection. Due to the lower than expected return from the first submission of the survey to the Reinvention Laboratories, a second submission of the survey was conducted. Follow-up phone and e-mail interviews were additionally done to obtain a greater return rate and further amplification of survey responses.

Confidentiality is another important aspect. In collecting the qualitative and quantitative data, the researchers assured the reinvention labs' representatives complete confidentiality on any information provided. Personal or organizational names are identified only for assigning credit for positive suggestions or achievements.

2. Results of the "Front-Line" Survey

The replies to the survey provided substantial insight into the successes and impediments to logistics reinvention. It also provided trend analysis on questions #5 - Ranking of Barriers to Reinvention and #8 - Ranking of Barrier to Waiver Process which used the Likert scale. This section summarizes the trends noted.

a. *Qualitative Reporting*

(1.) Positive Trends. Six positive trends were identified from the survey responses. They are as follows:

- All Labs Have Made Some Level of Change

All labs reported that to some degree, they were able to make some change within their organization. The majority of organizations made it clear that being a reinvention lab offered greater flexibility and important visibility. Additionally, many representatives conveyed that the lab designation allowed them greater latitude in pursuing what was best for their organization. They also conveyed that it often allowed them the ability to experiment where they might not otherwise have had the opportunity to do so. However, many of the labs also echoed the comment that being a lab offers great opportunity, but it was not the "be all to end all". It did not guarantee success. Simply doing good business for your customers in a smart, effective manner, ensuring that all steps add value is the key outcome. What is more important is instituting a mindset of constantly looking for ways to be more efficient or effective. The Air Force has attempted to incorporate this mindset service-wide in their continuous improvement process in conjunction with their Total Quality Management program.

- Positive Attitude

The single most impressive trend noted by the labs was an overwhelming "can do" attitude and genuine enthusiasm of the "change agents" in doing their job well. Many of these labs face numerous hurdles to succeed such as lack of up-front funding, cultural resistance, limited manpower, "turf or rice bowl battles" -- to name a few, yet continued to exude a tireless desire to improve their organization. Professors Fred Thompson, Willamette University, and Lawrence Jones, the Naval Postgraduate School, analysts of the reinvention processes, sum up the success of the reinvention laboratories in their article "Unsung Heroes". In this article, they attribute the immense success and documented monetary savings in resources within the Department of Defense to the innovation and drive of the front-line workers who spearhead the daily battles. This quote illustrates the unselfish nature of the Reinvention Lab front-line worker:

... [instituting Reinvention is] like any worthwhile effort that takes effort, time and money. It's as difficult as changing culture through TQM. It takes time and persistence, but it's worth it. Do not expect to be recognized -- often as not, someone else will get credit for your work. You have to believe the old saying that "he who cares too much about who gets the credit, never gets anything done".

- Supportive Senior Leaders

Many organizations throughout all of the major components and Department of Defense agencies indicated that a major factor in the success of their reinvention and reengineering efforts were due to active "champions". These senior individuals at all levels pushed support and often provided needed resources to worthy initiatives and processes. Additionally, they fought cultural friction and naysayers to eventually enable the innovative ideas to be implemented.

- Organizational Sharing of Ideas and Pre-established Waivers

Many organizations within DoD are transferring lessons learned internally. Two organizations have showed the most promising display of sharing success stories. The Army's FORSCOM and TRADOC, in particular, and Defense Logistics Agency (DLA) have multiple cases where other internal organizations "piggy-backed" on sister agency success. The survey responses showed that within these organizations there has been effort to "push" information learned and to fully utilize the capabilities developed.

- "In Step" with DoD Vision

Many organizations show that they clearly understand the DoD reinvention vision. The majority of labs in their responses showed, as stated by Rachel Kopperman-Foster at the 1997 DoD Reinvention Lab Symposium, "that being a reinvention lab was more than simply pursuing

waivers; it was reinventing their organization to function more efficiently and effectively." Again, numerous representatives in every service and governmental agencies reported improving their organizations without the need of rules waivers by simply "doing business smarter".

- Local Incentive Programs

The Army's Training and Doctrine (TRADOC) Command showed that they are one of DoD's premier innovators. James R. Freeman reported how TRADOC had instituted two programs to work around the lack of resources issue. To quote:

Two of the Reinvention Laboratories have created incentive programs in the way of offering monetary support to innovative, bold thinking. The Mission Support Laboratory created the Base Operations Opportunity Leveraging and Developments (BOLD) Grants initiative which provides seed money to installations to test innovations to make BASOPS [base operations] more effective, efficient, and customer focused. This program has been recognized by the National Performance Review (NPR) by award of the Hammer Award. Secondly, the Training Laboratory created the Breakthrough - Special Monetary Account for Reinventing Training (B-SMART), which provides venture capital for reinvention initiatives as well as awards for organizations making submissions. (Freeman, 1997)

(2.) Negative Trends. The surveys reported seven negative trends. They are as follows:

- "Broken" Waiver Process

The number one comment in the survey focused on the Department of Defense's inability to provide timely final approval or disapproval of waivers. Many

Reinvention Laboratory representatives felt that the current waiver process is broken. They provided a multitude of examples where 90 - 180 plus days were spent awaiting the outcome of their waiver requests. To illustrate the overall sense of frustration associated with the waiver process a few eye-catching reinvention lab quotes may be cited:

I have seen the enemy ... and the enemy is us.

We need to reinvent the [reinvention] waiver process

We have a general comment regarding the current waiver process. It violates the original guidance from then Secretary [of Defense] Perry empowering a Reinvention Lab commander to approve DoD waivers and to implement them if the DoD Chief Counsel could not determine within 30 days that the waiver violated a federal statute. The current process also violates the guidance given by Vice President Gore in the *Blair House Papers*: "Don't decide anything in headquarters that can be decided someplace else." ... The current DoD process is no better than the waiver process BEFORE Reinvention.

Our last two DoD-level waivers were 'disapproved' by DoD. The lesson learned by many labs was that we no longer had the authority given to us by Secretary Perry to waive any DoD-level regulations, so we stopped wasting our time.

The waiver process has become too complicated. In these time of "Do more with less", if the process is too complicated it won't get done.

The revised DoD waiver process of 2 April [97] did not improve the waiver process because we still have to ask DoD for permission before a waiver is approved.

Lack of immediate results have caused many [fellow] labs to lose enthusiasm and quit submitting waivers requiring DoD approval.

The DoD waiver process is quite slow and burdensome.

- No Single Point of Contact, No Single Set of Waiver Requirements

The second most common impediment documented in the surveys was the frustration of having to deal with multiple points of contact and multiple waiver requirements. The representatives stated that each level had its own requirements which impeded progress. To illustrate the following comments are included:

Establish a single POC and provide sufficient personnel resources for the POC to be effective.

The Reinvention Process should not be put under a directorate or division. The success of this program relies on the ability to task directors and subordinates without the traditional layers and processes ... (layer after layer). The "stove pipe" [structure] slows down the process and, in some instances, stops good changes from occurring. Suggest the program be placed under the chief of staff or equivalent level throughout the DoD.

The reinvention waiver process needs to get back to the philosophy and spirit of Secretary William Perry's 23 May 1995 memorandum. *Waiver Authority for Reinvention Laboratories and Centers*, which prescribes delegation of authority to waive requirements at the DoD level to reinvention labs, omitting the need for significant additions to the approval cycle by functional points of contact. This excess review creates an atmosphere of "protecting the rice bowls" of authority, and negatively affects inventive thinking.

- Waivers Used for Personal Agendas

Another common theme documented in the survey responses was, as one lab representative put it, "senior officials using the waiver process to push personal agendas". The quotes below, taken from the Reinvention Lab representatives reply to "the describe your most serious impediments" question, illustrate this effect:

"Not invented Here", incredible resistance to change, no matter who is behind the initiative. Old timers have long ago determined that they can wait out everything they disagree with

... waiving regulations has become encumbered by the bureaucracy. For example we have the authority to directly waive (service) regulations, and have been successful in doing so. On the other hand, waiving DoD regulations is restricted to approval [by DoD only currently and which is] difficult to work. This slows down the process and has proven to be much more difficult to work. In both cases, the stovepipes don't get it. They have a tendency to want to protect their own turf and do not want to work horizontally to make process change....

Traditional management styles [exist], overly negative counterparts in other commands impede progress

The most serious impediment to reinvention improvement is the unwillingness of functional areas within the organizations under the Lab's cognizance to accept changes to their areas.

- Fast Rotation of Key Leaders

Many reinvention laboratories stated that the short rotation of key senior leaders impeded

potential reinvention progress. As documented it affected the labs in the following three ways:

♦ Different Leaders Have Different Ideas in Conducting Business.

One course of action taken by new leaders joining a reinvention lab was either to permanently stop the entire initiative or bring it to a halt while they decided how they wanted to proceed. The labs stated, at both the reinvention symposium and during phone and e-mail interviews, that for one reason or another, new senior leaders personally disagreed with the reinvention initiative(s) already instituted by their predecessors and chose to stop or go in a different direction with the initiatives.

♦ Different Leaders Wish to Make Their Own Unique Mark

Different leaders typically institute their own, unique vision with their organizations and, consequently, drop previous reinvention work in process. The reinvention labs have conveyed that this sets back progress made and can often stop the entire process. The long initiation process is an uphill battle most labs prefer to face only once, let alone twice. Meeting such setbacks often withers all but the most determined "change agents".

◆ It Takes Time to Bring a
New Leader Up-To-Speed

The problem with the changing of the guard is that the new leader must be brought up-to-speed on all of the nuances of the Reinvention Process and to push for successful waivers. This third course of action, which is significantly less of an impediment to reinvention efforts, set back the rate in which waivers could be requested or implemented.

- Lack of Quantifiable Performance Measures/Cost Savings

The survey responses indicated that numerous labs clearly have solid measures of performance established and provided data on cost, manpower, and other resource savings. However, many other laboratories had no data. These labs did not have well established metrics to enable them to measure their performance.

- Lack of Up-To-Date Databases

While some organizations were able to "piggy-back" or benchmark already instituted waivers for the benefit of their organization, this was not a common case. A DoD NPR waiver database has been established

(<http://www.dtic.mil/npr/newwave.html> or <http://www.dtic.mil/comptroller/npr.newwave.html>). However, many laboratories complained about it being "woefully" out-of-date. The reinvention laboratories felt, as a result,

that it impeded their efforts in two ways. First, many labs could not verify the true status of the waivers they submitted. This caused extra time to be exerted in the repeated tracking of the current progress or standing of their waivers. Secondly, many logistics reinvention lab representatives felt that the lack of an up-to-date waiver database prevented them from adequately "piggy-backing" other similar organizations' waiver successes or using it to gauge their shortfalls. The labs indicated that this extremely valuable mechanism could not be fully exploited.

- Untouchable Waiver Areas

Several labs expressed continued frustration with being unable to institute change in two areas deemed important but restricted from change. The following comments were provided:

The real places where waivers could be of vital use are in the area of personnel and fiscal management and these areas are effectively off limits.

It appears that some areas have been excluded from the waiver process such as acquisition and personnel.

Process improvement with personnel issues was also a hot topic of debate at the 1997 Reinvention Symposium. Many attendees expressed frustration with regard to personnel programs, in particular the Priority Placement Program (PPP). Diane Disney, Deputy Assistant Secretary of Defense for Civilian Personnel Policy was very adamant about the support her office would give to anyone aggressively pursuing innovative ideas in the area of the personnel system infrastructure. However, she also made it very clear that all demonstration projects had to uphold the merits of Equal Pay, Equal Opportunity, and could not be exempted from prohibited personnel rules. (Disney, 1997)

b. Quantitative Reporting

The analysis of the quantitative section of the survey, questions #5 and #8, provides some additional trend information. For each of these questions a table and graph of results is provided to illustrate the resulting outcomes. Two important notes must be interjected. First, although 27 logistics surveys were obtained, not every lab that answered rated every question. Some lab representatives indicated that certain categories were "not applicable" and marked them accordingly. As a result the sample size for each category varied. Sample sizes used for calculations are identified with each table. The second note is that the data shows trends, but not as significantly as anticipated. This was caused by two primary factors:

- The scope of the survey (logistics and transportation oriented) significantly narrowed the ability to capture a large sample size.
- The respective size and mission of the activity greatly affected the final results of the data. To illustrate, most small laboratories had minimal dealings with DoD. This fact, therefore, tended to skew the results. For future surveys, it is recommended that the size of the organization and to whom they report needs to be considered to more accurately conduct trend analysis.

(1.) Ranking of "Disincentives to Reinvention" (Survey Question #5). Question 5 asked the labs to rank the "Barriers to Reinvention": *up front costs, anticipated funds lost, loss of jobs, absence of resources, and generalized resistance to change.* Table 8 provides means based on the rankings the laboratory representatives assigned to these listed disincentives.

Table 8. Logistic Labs' Disincentives to Reinvention - Mean Values of Input (1-5 Scale)

UP FRONT COSTS (N=19)	ANTICIPATED LOSS OF FUNDS (N=15)	ANTICIPATED LOSS OF JOBS (N=16)	ABSENCE OF RESOURCES (N=20)	GENERALIZED RESISTANCE TO CHANGE (N=20)
2.21	2.6	2.625	3.35	3.6

(Jenkins, 1997)

The number one disincentive to labs was *Generalized Resistance to Change* (see Table 9 and Graph #1). Changing "established mind-sets" was cited by 65% of the survey respondents as a major impediment in the labs' effort to change their organizations.

Absence of resources was ranked second. Manpower availability to institute and see these changes

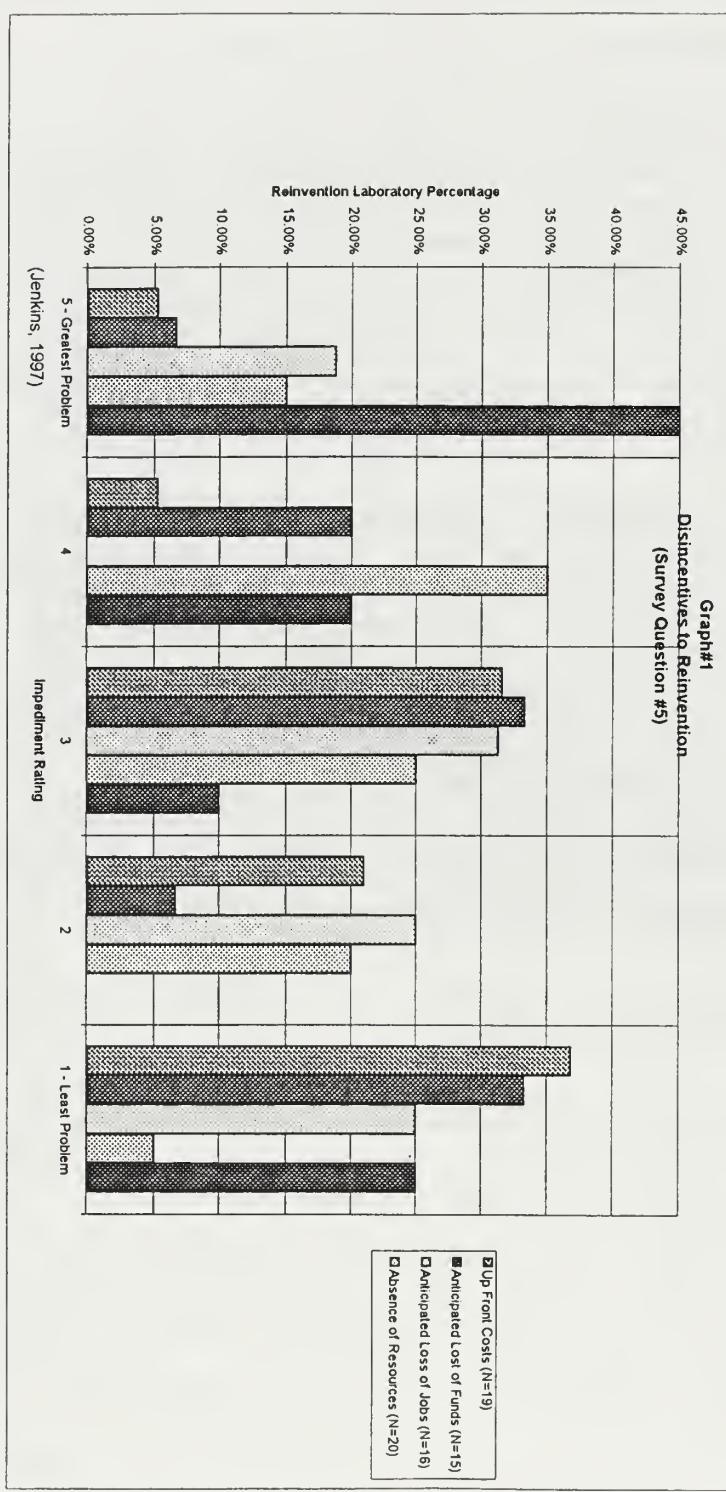
through was cited as a major variable. Comments provided by the laboratory representatives are listed below to illustrate this point:

...They [leadership] must allow people to put in the time needed to develop waiver ideas, develop paperwork and new processes, etc. This time should not be seen as a burden or an additional duty ... When organizations are downsizing and staff are doing more with less, it is hard to get people motivated to do everything and the paperwork to submit a waiver, besides keep all sorts of detailed implementation costs data that may be more costly to measure

... the (name withheld) organization is disrupted by the regionalization of Human Resources functions and large scale automation efforts such as those required to implement (program) as mandated. The impact of these changes has created an environment where people at all levels of the organization find it difficult to keep pace with changes over which they have limited control. In this type of environment, management attention to reinvention lab waivers is of secondary importance. Employees, trying to do more with less, often do not have the time or inclination to investigate a waiver suggestion.

Table 9. Disincentives to Reinvention

	Disincentive to Reinvention	Up Front Costs (N=19)	Anticipated Lost of Funds (N=15)	Anticipated Loss of Jobs (N=16)	Absence of Resources (N=20)	Generalized Resistance to Change (N=20)
Rating						
5 - Greatest Problem	5.26%	6.67%	18.75%	15.00%	45.00%	
4	5.26%	20.00%	0.00%	35.00%	20.00%	
3	31.58%	33.33%	31.25%	25.00%	10.00%	
2	21.05%	6.67%	25.00%	20.00%	0.00%	
1 - Least Problem	36.84%	33.33%	25.00%	5.00%	25.00%	



...Many of the questions in the survey require substantial analysis: there are no brief answers. This requires manpower. The downsizing glidepath has severely hampered our ability to respond to these similar tasking in different formats. Here at (unit) we have a one man Reinvention Lab staff and he isseverely bombarded with [other reinvention projects]

The next two categories, *anticipated loss of jobs* and *anticipated loss of funds*, also ranked high.

The final category, *up front costs*, was cited as the least distractive to the labs in their pursuit of logistics change. The general view was presented that *up front costs* are a significant barrier to the labs. However, lab representatives conveyed that in relation to other barriers, the labs had more control and options to deal with this particular impediment, i.e., they could either:

- Sell the initiative to their higher unit. In most cases, justifications of savings would allow them to obtain the necessary funding.
- Pursue the initiative regardless of the *up front costs*. The labs conveyed the view that, by and large, their organizations would elect to implement the initiatives as they would ultimately save more by its installment. It should be noted, that one particular lab desired to develop a high cost information management system. Current funding did not allow this to be instituted so, ultimately, the up-front cost forced the lab to hold off on their initiative.

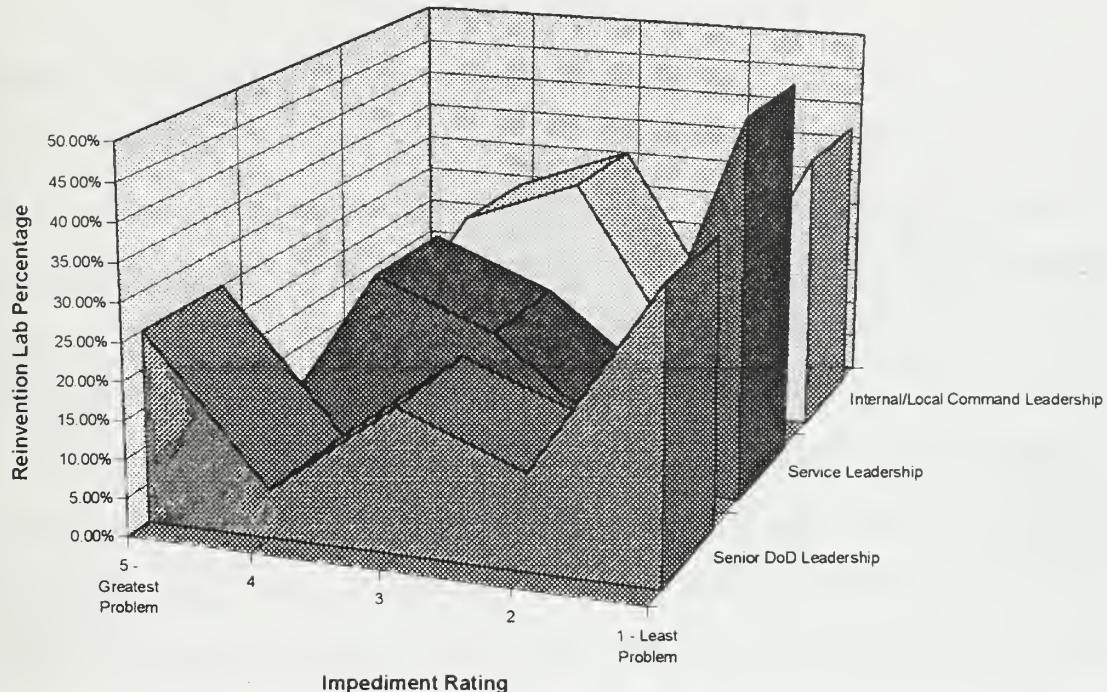
(2.) Ranking of “Barriers to the Waiver Process” (Question 8a). Table 10 and its associated graph, Graph 2, show the outcome of the results for the laboratory representatives’ input on the “Support for Waivers” question. Although the data exhibits a bimodal distribution, some trends can be identified.

Table 10: Barriers to Waiver Process by Hierarchical Level

Barriers to Waiver Process by Hierarchical Level			
	Senior DoD Leadership (N=16)	Service Leadership (N=16)	Internal/Local Command (N=16)
Rating			
5 - Greatest Problem	25.00%	0.00%	0.00%
4	6.25%	25.00%	25.00%
3	18.75%	18.75%	31.25%
2	12.50%	6.25%	6.25%
1 - Least Problem	37.50%	50.00%	37.50%

(Jenkins, 1997)

Graph #2
Barriers to Waiver Process by Hierarchical Level
(Survey Question #8a)



(Jenkins, 1997)

First, senior DoD Leadership was ranked by 25% of the labs as having the highest impediment influence. Although no test for correlation was done due to the limited sample size, remarks in the survey responses reflecting that many of the reinvention labs that ranked DoD/OSD with the least impediment category also stated that they worked very little, if at all, with DoD/OSD in pursuit of waivers.

The second trend was very positive. Fifty percent of the labs ranked their service level leadership

with the lowest rating as impediments to the waiver process. Additionally, as stated, no command ranked its own service/agency with the greatest impediment ranking. This evidences a predictable bias to protect one's own service.

At the local command level the most significant point was that no representative thought that internal leadership was the greatest problem. There were a number of cases, however, where internal friction was present (25% ranked it a 4 and 31.25% ranked it a 3).

(3.) Ranking of "Perceived Impediment Caused by External Statutes or Commands" (Question 8b). Significant data was not available on this category because many representatives did not have to deal with this factor. A bipolar distribution occurred for those few that did respond.

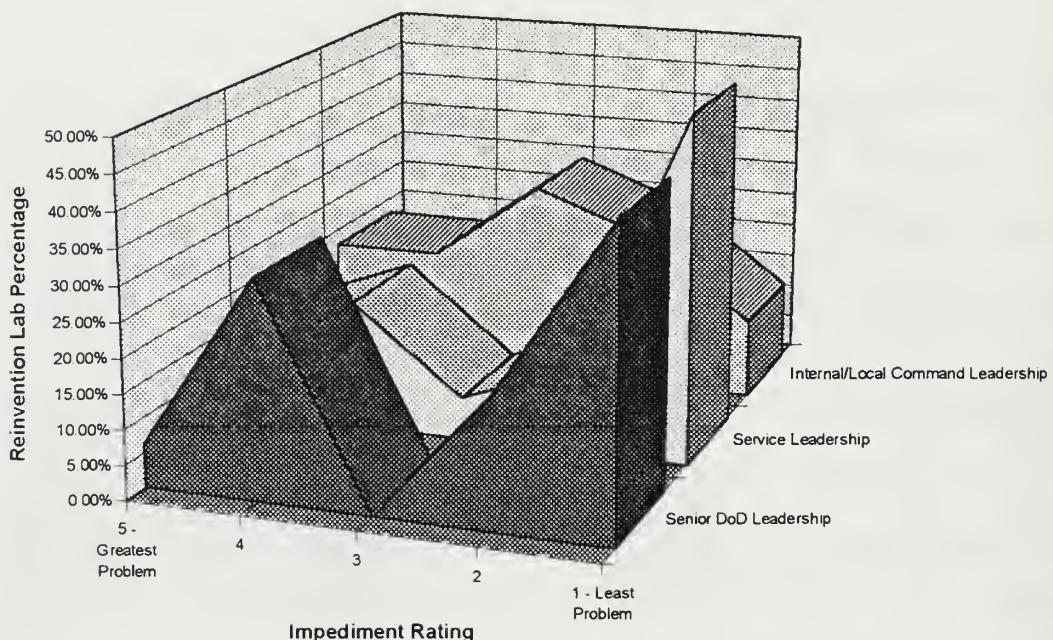
(4.) Ranking of "Perceived Lack of Knowledge or Experience with Waiver Process or Procedures by Hierarchical Level" (Question 8c). The results from the survey provided insight that, overall, the lab representatives felt confident with the level of knowledge of senior DoD Leadership. As shown in Table 11 and Graph #3, 62.5% of the representatives gave Senior DoD Leadership one of the two lower impediment rankings. Only 6.25% of the representatives perceived this as the greatest impediment to the waiver process.

Table 11: Perceived Knowledge or Experience With Waiver Process by Hierarchical Level

Perceived Knowledge or Experience with Waiver Process by Hierarchical Level			
	Senior DoD Leadership (N=16)	Service Leadership (N=16)	Internal/Local Command (N=17)
Rating			
5 - Greatest Problem	6.25%	12.50%	17.65%
4	31.25%	18.75%	17.65%
3	0.00%	6.25%	29.41%
2	18.75%	12.50%	23.53%
1 - Least Problem	43.75%	50.00%	11.76%

(Jenkins, 1997)

Graph #3
Perceived Lack of Knowledge or Experience with Waiver Process
(Survey Question #8c)



(Jenkins, 1997)

In this category, service leadership again fared the best. Fifty percent of the respondents ranked service level leadership as the lowest problem. The remaining 50% was evenly distributed throughout the rankings.

Internal/local command leadership earned an average even ranking across the spectrum. This is understandable as some local commands exhibited superior knowledge of the waiver process while others were in the early stages of implementation and were just beginning to move up the learning curve.

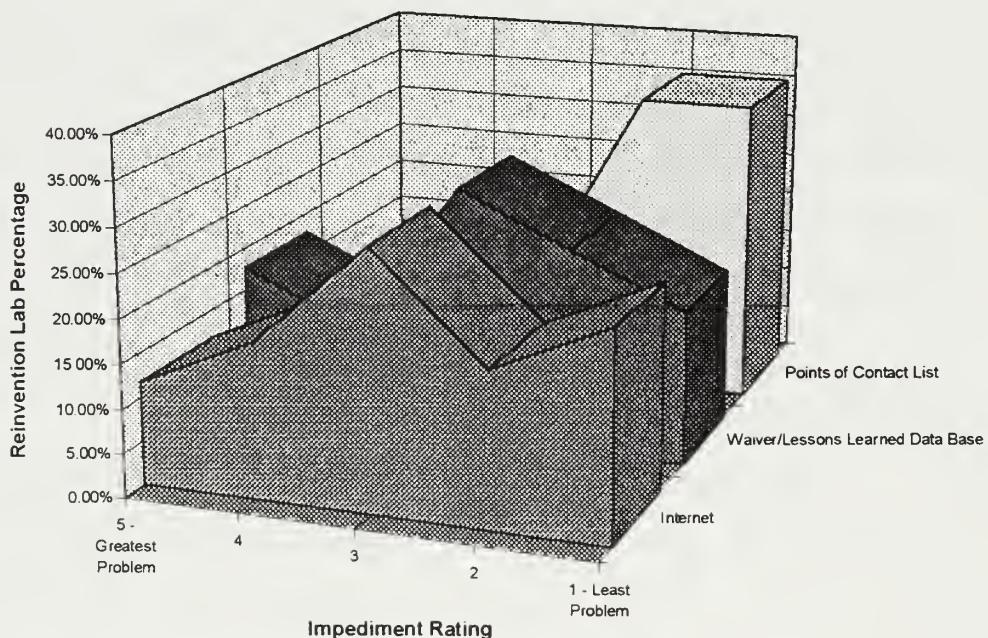
(5.) "Classification to Information Dissemination Barriers to Waiver Process" (Question 8d). The responses to this question did not rate as expected (See Table 12 and Graph 4) based on the overwhelming weighting of written and verbal comments given by the lab representatives. The distribution of ratings for both the Internet and Waiver/Lessons Learned Data Base categories were fairly evenly distributed. The data related that the *Points of Contact List* was deemed an even lower impediment to successful waiver implementation. The conclusion that may be drawn from the data is that although the representatives thought they would benefit from the creation and continued maintenance of these "lessons learned" communication, the labs have been able to work around their unavailability.

Table 12: Information Dissemination Barriers

Information Dissemination Barriers			
	Internet (N=17)	Waiver/Lessons Learned Data Base (N=17)	Points of Contact List (N=17)
Rating			
5 - Greatest Problem	11.76%	17.65%	5.88%
4	17.65%	11.76%	11.76%
3	29.41%	29.41%	11.76%
2	17.65%	23.53%	35.29%
1 - Least Problem	23.53%	17.65%	35.29%

(Jenkins, 1997)

Graph #4
Information Dissemination Barriers
(Survey Question #8d)



(Jenkins, 1997)

c. Other General Comments

Other important lessons were gleaned from the survey data. These lessons can be extracted and used to assist any agency seeking process improvement, particularly newly forming logistics reinvention laboratories.

3. Results of the Senior Coordinator's Survey

The Senior Coordinator's Survey (Appendix B) was prepared using the same method described for the "front-line" representatives survey. Senior coordinators offered information from their perspective. Ideas expressed in response included:

a. Pride of Role

Like the front-line reinvention representatives, the service and agency senior coordinators were very proud of their efforts. One coordinator, Randa Vagnerini, in charge of the United States Army's Reinvention efforts, stated that one of her organizations' greatest accomplishments was, "To assist Army organizations taking control of their own destiny".

b. Support from Senior Leadership

Most senior coordinators indicated that their senior leadership was strongly championing the reinvention cause. All of the survey responses stated that top level support, Assistant Secretaries of the respective services and/or Chiefs of Staff, were wading in to fight for

reinvention. The only negative comment was that occasionally functional staffs or other offices resisted change due to conflicting "rice bowl" incentives. Again, success with change in instituting initiatives almost always was attained over this friction as a result of the support and involvement of higher ranked "champions".

c. Cultural Resistance

The single biggest impediment to change indicated by senior coordinators was general cultural resistance. From the information obtained from both the "front-line" surveys and the senior coordinators' surveys, there is a consensus that people and their organizations can work around most impediments (absence of resources, limited information dissemination and etc.) but often cannot overcome cultural resistance to change. Persuading people to shift from the "way business has always been done" was clearly the highest overall hurdle advocates of reinvention have had to jump.

d. Publicize Success

Senior coordinators emphasized the importance of "getting the word out" about reinvention successes. This shares the positive information learned, benefiting other laboratories, and helps to generate continued support and enthusiasm for reinvention or reengineering efforts. DoD, more than the private sector, suffers from fast turn over in key billets. By continued "banging of the reinvention

drum", new leaders learn the potential this mindset holds for improvement of their organization and, ultimately, the Department of Defense.

e. *Loss of Momentum of Reinvention Movement*

Senior coordinators agreed that a loss of organizational momentum with the reinvention movement had occurred DoD-wide. Senior coordinators also noted that, for the most part, momentum had suffered periodic pauses, citing two major causes:

- Loss of Key Champions.

To quote:

The process has lost momentum because we have some new leaders and managers who are not fully onboard with reinvention.

Time and effort is required to bring new leaders and managers abreast of the importance of reinvention efforts and its potential results.

- Stretched Resources

The lack of people to pursue the planning, coordinating and overseeing of reinvention efforts was the number one problem documented by the senior coordinators. To quote, as DoD continues to downsize:

... people are so busy and stretched out, that it's hard to get people to take sponsorship of the lab in addition to other things [tasks and current job requirements].

... people are dual and triple hatted. Without reinvention being a full time billet, [the individual] can't give the attention necessary to address the unlimited potential of the RL [reinvention lab].

f. Comments to Successors

Senior leaders offered the following comments to stimulate reinvention for individuals tasked to take over their billets:

Lieutenant Colonel John E. Wise, Senior Representative/Coordinator for USA

Be proactive.

Randa Vagnerini, Senior Representative/Coordinator for USA

Develop a strategic plan as to what reinvention is and what being a lab could do for the Army and get that plan endorsed by the senior leaders. A plan that defines common goals and objectives and what type of common results are expected from each lab. Reporting to the senior leaders how the plan is working and what it is doing for the Army.

Recognizing those individuals up front that are making strides with reinvention initiatives.

Keep information flowing upward and downward to all labs and non-labs.

Get continuous feedback to enhance or improve future efforts.

Continue to strive to make the processes easier and more effective.

Major Mark Kuschel, Senior Coordinator - Labs and
Waivers for USAF

... Get high ranking HQ officials to visit the [Reinvention Labs] RLs more frequently....

... Establish a more structured approach in identifying/cascading Best Practices.

C. BEST SUCCESS STORIES

Currently, no data base is available to accurately identify the total of logistics savings achieved by Reinvention Labs. Due to the overlapping nature of logistics, numerous non-logistics oriented Department of Defense organizations and agencies are making significant process improvements but, are not reporting them as such. Additionally, many logistics savings are being instituted by the labs but are classified as saving to their primary missions (e.g., Research, Development, Testing and Evaluation, Reengineering through information) category.

This next section provides summaries of success stories that may be used as benchmarks in addition to illustrating the potential savings from reinvention efforts in logistics. Due to the lack of quantitative savings data on Reinvention Lab logistics initiatives, a summary of the "top five" initiatives is provided. The analysis of resources saved focuses on the following logistic variables:

LOGISTIC SUPPORT ELEMENTS

1. Maintenance Planning
2. Supply Support
3. Test and Support Equipment
4. Data
5. Packaging, Handling, Storage and Transportation
6. Training and Training Support
7. Manpower and Personnel
8. Computer Resources Support
9. Design Interface
10. Facilities

The five cases show how logistics reinvention may be implemented across a diversity of logistics activities. These cases also show unique approaches to implementing entrepreneurial concepts within DoD.

1. Closed Loop Wood Recycling, Defense Distributions Depot, Susquehanna

At the 1997 Reinvention Symposium, Jerry Clemens, Special Operations Logistics Division, Defense Distributions Depot, Susquehanna (DDDS), Pennsylvania provided one of the best examples of what reinvention is about. He spoke on "Closed Loop Wood Recycling" based on the experience of the Distributions Depot, Susquehanna, Pennsylvania (DDSP) Wood Reclamation and Recycling Program. The was the largest and perhaps most noteworthy reinvention program presented at the Symposium.

The prototype wood and pallet recycling program involves DDDS operation of two sites at New Cumberland, PA and Mechanicsburg, PA. It is a ten million dollar distribution operation, and processes more than 20,000 demands by customers with over \$4 billion in inventory. Its history is that DDDS was faced with potential fines in violation of Executive Order (EO) 12873 and excessive disposal costs. DDSP had to take immediate steps to reduce its solid waste stream.

Table 13 is a summary of DDSP waste and materials costs:

Table 13. Defense Distribution Depot, Susquehanna, Pennsylvania - Solid Waste Stream and Costs

Item	Amount or Cost (per year)
Tons to Landfill	48,000 tons
Wood waste	40,000 tons
Cost to dispose of waste	\$2.4 million
Cost to dispose of wood waste	\$2.0 million

(Clemens, 1997, p. 12)

The costs to transport and package supplies are shown below (see Table 14):

Table 14. Defense Distribution Depot, Susquehanna, Pennsylvania - Costs to Transport and Package Supplies

Item	Amount or Cost (per year)
Pallets	\$2.9 million
Dimension lumber (Board Feet)	\$0.6 million
Packaging materials	\$2.9 million
Total	\$6.4 million

(Clemens, 1997, p. 13)

After analyzing the data, targets of opportunity for cost savings were identified as:

1. Pallets cost \$8.00 each for a total cost of \$3 million per year.
2. Dimension lumber costs were increasing 50 to 60 cents per board foot.
3. Cardboard shipping containers cost almost as much as the cost of the items being shipped. (Clemens, 1997, p. 13)

DDSP employees and management identified the following potential savings (see Table 15):

Table 15. Defense Distribution Depot, Susquehanna, Pennsylvania, - Potential Cost Savings

Item	Cost Savings (per year)
Landfill cost avoidance	\$2.0 million
Pallets	\$2.9 million
Dimension lumber	\$0.6 million
Packaging materials	\$2.9 million
Total	\$8.4 million

(Clemens, 1997, p. 14)

The potential cost savings for pallets, dimension lumber and packaging materials must be viewed as ultimate limits. These savings imply 100 percent recycling savings. While these savings may be obtainable for a short period of time, realistically replacement materials will be required over the long run to replace pallets and packaging material that are damaged beyond repair. DDSP conducted a study of commercial practices to understand what Georgia Pacific Corporation, International Paper Company and Stone Container Corporation did with solid waste and to determine what metrics to benchmark against. (Clemens, 1997, p. 68) Partnerships were established to bring the best practices to the government processes. Additionally, commercial wood recyclers were visited to observe operations. An analysis of commercial industry practices revealed

1. Over \$5.5 billion per year in new pallet sales.
2. Over 600 million new pallets produced per year.
3. Over 65 million pallets received for recycling.
 - a. 15 percent of all pallets were sorted and reused.
 - b. 62 percent of all pallets were repaired and reused.
 - c. 14 percent off all pallets were cut down and 82 percent of the parts were reused.
 - d. Less than 10 percent of remaining waste was turned into mulch and fuel by a grinding and chopping process.
4. One billion board feet of lumber is used to make pallets, of which 912 million board feet is reused. (Clemens, 1997, pp. 16-17)

A waiver to sell pallets was requested to avoid the requirement for the Defense Reutilization Management Office (DRMO) to sell excess government property. (Clemens, 1997) This process took six months and required numerous debates between the contracts and legal departments before the Depot Commander decided to do it.

The Grocery Manufacturers' Association pallets are "graded into good, repairable, or cut-down using the marketplace standards." (Clemens, 1997, p. 20) Pallets were manually sorted into different grades of quality. Government pallets are 48 inches wide and commercial pallets are 40 inches wide. New pallets cost about \$8.25 per pallet. The recycled pallets were sold for as high as \$4.51 per pallet. After less than six months \$350,000 in revenues from the sale of pallets had been achieved. (Clemens, 1997)

Employees at DDSP suggested that an analysis be made to determine if some pallets could be remanufactured. It was estimated that up to 16,000 pallets per month could be rebuilt. Despite labor costs of \$30.00 per hour it was determined that pallets could be remanufactured for between \$5.56 and \$6.00 each. This could save about \$2.00 per pallet by using rebuilt pallets. The pallet rebuilding process is described below:

1. Pallets with more than one or two board repairs required are cut down from military to commercial length.
2. The stringers and deck boards removed during this process are reused for other repairs.

3. The waste pieces are separated by deck boards, top, bottom and stringers.
4. The reusable boards are then "bunked" or stacked by type.
5. The component parts are remanufactured into a recycled pallet and reused. (Clemens, 1997, p. 32)

DDSP experimented with using other top board materials such as recycled plywood and is participating in the process to reengineer military pallets using recycled materials for new military and commercial applications.

All wood waste is delivered to the Reclamation Center for screening and separation. Wooden containers that were once discarded are repaired and put back into service. Many of these boxes cost about \$75 each. Dimension lumber is sorted by size and cut to size for custom orders. In the past, only virgin timber was used for fabrication of skids and dunnage. According to Clemens, the new policy resulted in a 40-60 percent per month reduction in procurement of virgin timber -- cash which upset the virgin timber industry. Clemens estimated that over \$60,000 per year of board length lumber was being buried. Now the wood is denailed by hand. The finished products are put into inventory for use by the fabrication shops. Orders for wood are "faxed to the Reclamation Center and precut dimension recycled lumber is used to fabricate the crate, skid, or dunnage" to meet custom orders. (Clemens, 1997, p. 36) Excess lumber scraps are organized by size and sold. All remaining wood waste is transported to a contractor where it

is "ground and screened using a hammer mill. All fasteners and nails are removed by magnetic drums in the conveyor process, and are sold as scrap metal to a local recycler. The final product is 100 percent biodegradable landscape mulch." (Clemens, 1997, pp. 39-43) The mulch is sold back to DDSP at a discount of \$60 per ton and used on the installation.

Reengineering of a 100 percent recycled content cardboard specification for shipping containers was the next DDSP initiative. Clemens estimated that 25 tons per week of cardboard costing \$3 million per year are used in packaging supplies. Previously old corrugated cardboard was sold to a local recycler who sold the material for about \$125 per ton in the east and \$200 per ton in the west. The new process sells the cardboard to a contractor who "uses the fiber to produce a recycled content shipping container." The recycled containers are then sold back to DDSP and used for shipping.

One barrier that had to be overcome was a DoD specification that was 30 years old and designed, "just in case," with high performance requirements. A Georgia Pacific Corporation 12 x 12 x 12 inch fiberboard box has a bursting strength of 200 pounds and costs 40 cents each. However, a DoD box that meets military specifications costs about \$1.40 each. One of the most expensive shipping containers is a tri-wall, which costs \$50.00 with a pallet; and DDSP processes 500 per day to customers. A fiberboard

container costs between \$22.50 and \$25.00 without the pallet. Even adding a cost of \$8.00 for a new pallet, it is still cheaper to use fiberboard recycled containers. DLA headquarters authorized a waiver to the military specification and a six month test was performed. The results indicated that the recycled boxes met all customer requirements and performed satisfactorily. The FY 1995 audited savings were \$900,000. An agreement was made with Ft. Bragg, North Carolina, to return containers to be used again. Now only after containers are no longer usable will they be disposed of to a cardboard recycler. The goal of DDSP is to eventually be able to reduce the Working Capital Fund (WCF) (previously known as the Defense Business Operations Fund (DBOF)) costs and provide better service at a reduced cost to its customers.

Lessons learned by DDSC included:

1. Use the Plan/Do/Study/Act Cycle instead of Do/Study/React/then plan.
2. Keep asking why when "bureaucracy" fights positive change.
3. Create a team atmosphere to improve processes and solve problems.
4. Use benchmarking ("steal industry good ideas").
5. Incorporate team atmosphere at the lowest level (many of the key players with good ideas are the operators).

2. Marine Corps Recruit Depots, San Diego

Marine Corps Recruit Depots, San Diego presented a superb example of a successful reengineering process that

incorporated both logistics and human resource issues. An extremely innovative molding of commercial capabilities to meet military needs in a cost effective manner was explained by Debbie Ruiz, the Deputy Assistant, Quality Management at Marine Corps Recruit Depot (MCRD), San Diego.

Ruiz explained how the recruiting depots have in the past used a time consuming, effort-intense, moneyless (chit-based) system to deter thievery in bootcamp. These serialized paper chits were issued to the recruits in place of money to aid in the tracking of illegal activities. All of the merchants located on the base accepted these chits in exchange for services or supplies. This system however had several distinct disadvantages. First, managing the inventory and accounting of the chits was extremely labor intensive. The system also employed the equivalent of six full time personnel who reconciled the chits a total of three times.

In place of this system, several key players within MCRD proposed a process that maintains the moneyless recruit environment yet removed all of the resource intense inventory requirements of the chit system. The MCRD team proposed to the Depots, DFAS and the banking institutions a win-win reengineering solution. The new process serves all new recruits by issuing them an ATM card. Although most MCRD San Diego recruits are issued a Marine Corps West ATM card, as part of a cooperative agreement, it is up to the recruits to select their banking institutions. The banking

institutions benefit from the use of the recruits' direct deposit funds. Recruits benefit from the ease of use and versatility of the ATM card instead of the chits. Depots and their vendors no longer have to spend countless personnel hours on accounting and tracking of the chits. Additionally, the vendors refund time has been cut significantly by the immediate payment by electronic funds.

Other benefits resulting from this resourceful venture are:

- Elimination of the chit system saved 2 1/2 days during the depots training schedule (i.e., 2 1/2 to use for other required training).
- Electronic Point of Sale equipment installed in all service areas. DFAS provided a \$260,000 grant to aid in the purchase of the capital equipment.
- Accounting reports are done automatically.
- Traveler's check costs were reduced by \$100,000 annually.
- Payroll Production time reduced.
- Decreased the number of lost/stolen treasury checks.
- Eliminated reporting of check issue data to the Treasury Department.
- Reduced check production by \$780,000 per year.
- Shifted six depots positions to front line service jobs.
- Marine Corps West replaced recruits' chit class with a more practical, educational class on balancing their budget and on banking practices.
- Estimated savings of \$1.7 million annually.

The success of this program has motivated MCRD and the Marine Corps to pursue other improvements in similar areas. They intend to offer the steps they took to implement this process to other similar DoD organizations. They also are looking at automating their retail clothing collections, refining their pay audit techniques, revising their travel service practices and assess other use of electronic data interchange.

3. Action Workout: An Accelerator to Continuous Improvement - USAF

This third example shows how one service is using a special organization specifically tasked to assess, recommend, and instruct other organizations on implementing process improvement. Senior Master Sergeant Dave Griffin, Action Workout Facilitator, Air Combat Command Quality Insurance, Langley AFB, Virginia explained at the reinvention symposium that the Air Force has continuously pushed for Total Quality Leadership/Management and process improvement, both prior to and during the period of reinvention in DoD. The Action Workout (AWO) team approach demonstrates continued emphasis in this arena. AWOs are experienced process improvement teams that attempt to provide an objective analysis of how to improve existing work practices. The AWO teams have met with significant success during their initial stages of deployment.

The history of the use of AWO teams originates with the fact that the AWO developers were trained by industry (GE

and Pratt and Whitney). Additionally, they learned and benefited from corporate consultants who assisted them on their initial projects. The team candidates selection process involves choosing members by Commander Air Combat Command (COMACC) and staff, and the teams are used to provide the change "message" to field units from COMACC. AWO objectives include:

A. Reducing cycle times through:

1. Eliminating waste systematically.
2. Reducing man hours.
3. Reducing building floor space.

B. Improving service quality through:

1. Simplifying processes, procedures, and methods.
2. Establishing visual control mechanisms.
3. Installing "mistake proof" systems.

C. Improving job enrichment through:

1. Direct employee input opportunity.
2. "Multi-skilling" of staff through better training.
3. Improving work area conditions and safety.

The concept of AWOs is driven by fiscal need to: improve processes in the work center, work with process owners/operators, use high energy, barrier-free communication (consultant teams called in by senior leaders have top level support), concentrate efforts to eliminate waste on the spot and to increase productivity. Seven

"types of waste" are attacked by the teams: rework, overproduction, transportation and conveyance, inventory, unnecessary motion, unnecessary processing, and cycle time (to reduce the "hurry up and wait" problem). The ultimate goal of AWOs is removal or reduction of non-value added activities that raise costs for the USAF.

Increases in productivity have resulted from the following "lean production" approaches:

- Pull vs. push production.
- Reducing work in process.
- Production leveling.
- Improving work processes.
- Improving physical plant layout.
- Reducing work defects.
- Establishing visual controls.

The AWO five step process ("sacred for successful results") for improvement requires:

- Identifying real needs.
- Site visit/prework.
- Unit preparation and data review (2-3 weeks).
- The AWO intervention event, (i.e. Action Workout Team on site - 1 week long).
- Senior commander briefed everyday at 1600.
- Follow-on action to see that implementation has followed the path of intervention.

A "critical need" is to have a senior leader present for the end of day outbriefs, summary, review, and a follow-on action planning conference. AWO leverage to achieve change is provided by:

- Visible leadership commitment to the mission, people, and improving performance.
- Expanded AWO training that fosters "learning leaders" with higher expectations.
- Reducing cycle times dramatically to alleviate operation tempo problems.
- Providing "bureaucracies" an opportunity to become part of the "solution".
- Taking performance to the next level through "process certification".

AWO success stories include the following:

McDill AFB Physical Exam Process Improvement

	<u>Pre AWO</u>	<u>Post AWO</u>
1. Physical scheduling process	180 minutes	35 minutes
2. Administrative cycle time	140 minutes	20 minute
3. Exam results average cycle time	120 days	1 day
4. Process step	19	9
5. Patient movement distance	1000 feet	100 feet
6. Additional travel on average (results to review and pick up results)	3.5 miles x 2	none same day)

B-1B Bomber Lubrication and Service Process

	<u>Pre AWO</u>	<u>Post AWO</u>
1. Distance traveled conducting servicing	2.8 miles	.2 miles
2. Maintenance hours	96 hours	48 hours
3. Process Excess unneeded steps	Heat exchanger flushing no longer required	

The next step after AWO intervention involves:

- Standardization of improvements.
- Expanding use of AWO to "Wing Power Teams".
- Applying "quality in daily operations" throughout the USAF.
- Expand Action Workout throughout entire Air Force.

A summary of lessons learned from the AWO experience thus far is that change requires:

1. Total leadership commitment -- from the headquarters to the flight line.
 2. "Closing the Loop" on continuous improvement actions.
 3. Identifying the "critical path" (remove or reduce all other non-value added steps).
 4. Applying video technologies (to view and study daily operations).
 5. Empowering process owners to "change their world." "Generating innovation in the workplace is contagious!"
 6. Embedding engineers and experts to make them part of the solution.
 7. Expanding training to foster "learning leaders" with higher expectations.
 8. Tolerance for failures -- leaders must permit failure if processes are to improve.
4. **Defense Personnel Support Center Business Practices Reengineering**

Mae DeVincentis from the Defense Personnel Support Center provided a presentation on the success of reengineering her organizations also at the 1997 Reinvention Symposium. Her presentation was entitled, "Reengineering

Business Practices." Speaking about how to start reinvention, she focused on her organization's mission statement: "The mission of the Defense Personnel Support Center (DPSC) is to ensure the combat readiness and sustainment of America's fighting forces by providing world class logistical support in peace and war." (DeVincentis, 1997) From this statement the DPSC Vision was derived "To be the worldwide provider of logistics services, to champion military readiness, and to be the leader in business innovation." (DeVincentis, 1997) DPSC business is "big business," with gross sales in 1996 totaling \$3,193.3 million. Three major commodities accounted for a large part of their business: food -- \$1107.2 million, clothing -- \$1060.7 million, and medical supplies -- \$1025.4 million. (DeVincentis, 1997)

As with many other DoD organizations, DPSC perceives both opportunities and threats in change, depending on how challenges are managed. These include downsizing, emerging technology, reinvention, globalization of markets, increased competition, acquisition reform and radical organizational redesign.

The DPSC Strategic Plan incorporates reengineering and application of best business practices. Business practices improvements include electronic tracking of items, cross-docking, using dedicated trucks and airplanes, and in some cases commercial distribution. The key to success for DPSC is to, "Keep inventory in motion". (DeVincentis, 1997)

Industry and customer relationships are also part of the reinvention improvement package. Reengineering industry relationships involves:

- Inviting increased industry participation using industry teaming and organization/function IPTs.
- Commercial product design and warranty.
- Best value buying methods.
- Multi-source matrixing to avoid government unique practices and to use commercial buying processes.

Reengineering customer relationships requires DPSC to continue to be readiness oriented and to be more involved in technology transfer using its customer liaison offices, electronic catalogs to improve product visibility and choice, to make available more reliable ordering information and delivery services, to reinstate a genuine customer focus centering on, "knowing and satisfying customer needs."

According to DeVincentis, DPSC is trying to change from being "... ineffective, duplicative, confusing and costly," to an effective agency that employs "fortified CBUs, leveraged synergy among staff offices, improved allocation of overhead, a streamlined staff, improved customer service techniques and a strategy to instill a new culture." These are the most difficult challenges.

Reengineered business practices implemented by DPSC include the following examples:

- Designations of "prime vendors"
- Design of a mail order pharmacy

- Vendor managed inventory
- Vendor park

DPSC's "New Strategy" is intended to represent to customers the evidence of their ability to reduce inventories, provide faster, better quality services at lower costs.

Speaking on Prime Vendor specifically, DeVincenzo reported that the General Accounting Office (GAO) issued a report on June 4, 1993 that "recommended the Secretary of Defense direct all four Services and DLA to conduct a demonstration project using commercial food distributors (prime vendors) to provide direct delivery of food to military dining facilities in the continental US". (DPSC, 1996, p. 1) The Deputy Under Secretary of Defense (Logistics) (DUSD(L)) issued a memorandum on August 16, 1993 to the military department Secretaries and the Director, DLA requesting that a Joint Task Group (JTG) be formed to perform a demonstration project. (DeVincenzo, 1997) The JTG chose to conduct the demonstration project in the four-state area of South Carolina, Georgia, Florida and Alabama because this area included dining facilities from all four services in both metropolitan and remote areas. This project represents a paradigm shift from the existing DoD subsistence supply system. The four services have different systems. DeVincenzo said DPSC had to develop a unique interface for each service and coordinate payment to the vendor for each service. (DeVincenzo, 1997)

The Prime Vendor program used commercial products, commercial business practices and emerging technologies. Long-term price, product, and distribution contracts with suppliers of various goods were made using electronic commerce. (DeVincentis, 1997) The Subsistence Total Order and Receipt Electronic System (STORES) is a multiple vendor and product line ordering system done using electronic data interchange that uses a facsimile backup transition to order products from electronic catalogs and lists. (DPSC, 1997, p. 2) Delivery is provided within 48 hours to the ordering galley and multiple orders per day can be made. Commercial off-the-shelf products instead of food made to military specifications is provided to bases. DeVincentis said a 1-2 percent fee for Prime Vendor is charged instead of the previous 11-20 percent surcharge. The requirement to order food several weeks in advance is eliminated and the requirement to have a large local inventory is eliminated. The direct delivery program enables the reduction of intermediate supply points and their associated inventories. These supply points normally held between 30 to 60 days of semi-perishable and frozen food, fresh fruits and vegetables. (DPSC, 1996 p. 2) The requirement to make large economic order quantities to receive the best price is eliminated. Customers do not receive food that is issued past the expiration date and which then has to be certified as edible. The International Food Service Distributors Association statistics indicate commercial vendors inventory

turnover rate of semi-perishable items is thirteen times a year compared to a DoD rate of once a year. (DPSC, 1996, p. 3)

3) The dining facility can refuse delivery on the spot of any unsatisfactory or non-ordered items. The delivery agent assists in resolving these problems. This increases customer satisfaction, as opposed to the traditional bureaucratic response.

The DA Operations Research Office (DOOR) performed a cost analysis of the Prime Vendor program during the demonstration phase. A "market basket" of goods valued at \$10 million, which was approximately 25 percent of total sales was selected. (DPSC, 1996, p. 4) This value is the procurement cost DPSC would have paid under the traditional system to purchase and distribute these items. These costs include "transportation costs, DA depot operating costs, DPSC and Defense Subsistence Office (DSO) operating costs, DFAS financial services, and end user infrastructure (e.g., warehouses, subsistence personnel, support equipment) at individual military installations." (DPSC, 1996 p. 4) Prime Vendor replaces transportation and depot costs with a fee.

Because the demonstration was a test, no facilities were allowed to be closed or personnel displaced. However, there are definite savings that will be achieved in this area. End user support, DPSC and DSO costs and DFAS financial services costs were artificially declared equal under both systems. However, in reality this is not the

case and the report acknowledges that there would be personnel reductions and cost savings. Under these constraints the costs of Prime Vendor exceeded DoD costs during the demonstration. An estimated break even point of about \$2000K dollars was determined by accounting for reductions in DoD infrastructure. (DPSC, 1996, p. 4) These reductions would include "closing or reducing end user subsistence facilities, reducing the numbers of subsistence support personnel, and reducing support equipment." (DPSC, 1996, p. 5) Despite the initial constraints some infrastructure savings were actually achieved by reducing personnel from 157 to 103 with payroll and benefit savings of \$1.4 million. Warehouse usage decreased by the following amounts (see Table 16):

Table 16. Decreased Warehouse Usage Due to Prime Vendor Initiative

Location	Square Feet Reduced
Fort Benning	44,000
Fort Jackson	34,000
Parris Island	40,000
Naval Station Mayport	26,000

(DPSC, 1996, p. 5)

The requirement for cold storage and associated utility costs were reduced.

The basic cost of food was determined to be higher because name brands instead of generic brands were bought. However, longer term contracts of higher volume will reduce

this difference when the Prime Vendor program is expanded to the Continental United States. Other savings identified include a one time savings from reduction in DoD food inventories. It was estimated that the inventory reduction savings for the four state area was over \$18 million and the annual carrying cost savings were \$700,000 per year. Military construction funds to build, modernize and maintain existing subsistence facilities will be reduced by an undetermined amount. Prime Vendor contracts require sharing of rebates between the vendors and government. These savings amounted to over \$500,000 during the demonstration which equaled a 1.6 percent rebate. These savings will offset the DoD overhead to manage Prime Vendor. (DPSC, 1996, p. 6)

DeVincentis stated that in the middle of the test during 1994, Congress was satisfied with the performance of the Prime Vendor program and directed the expansion to the rest of the Continental facilities. Currently there are multiple vendors being used and the entire Continental US is using Prime Vendor. Prime Vendor does not currently cover Meals, Ready to Eat (MREs) and other combat rations or overseas units food supplies. The DON has 25 unique food items that DPSC continues to provide.

5. IMPAC Card

One of the most beneficial commercial practice that the government has copied and adapted for use in the area of

purchasing is the IMPAC Card (International Merchant Purchase Authorization Card) or credit card. Introduced as another small purchase procurement method for both day-to-day logistics needs and for minor acquisitions, the IMPAC card has changed the way the Department of Defense does business daily. Initially promoted in 1993 by the National Performance Review, the card did not gain momentum until 1994, when the Federal Acquisition Streamlining Act (FASA) was enacted and Executive Order 12931 on procurement reform was issued. FASA removed many of the impeding restrictions, for purchases worth \$2,500 or less, allowing DoD to fully benefit from IMPAC as private industry does with the use of their credit cards. "Of 21 million [acquisition transactions in government], 90 percent are under \$2,500". (Laurent, 1997, p. 31)

Savings from the use of the IMPAC Card come from several sources. Initially the IMPAC Card was used in place of purchase orders or Blank Purchase Agreements (BPA). (McMahon, 1995) This practice reduced order processing time from six hours to two hours. Additionally, the GAO's August 1996 cost benefit studies showed that use of the IMPAC Card vice the traditional purchase order saves the government \$54 per transaction. (Laurent, 1997, p. 32) However, considering other savings, "The Army Audit Agency reported that using IMPAC cost \$92.60 less per transaction than using purchase orders". (Laurent, 1997, p. 32)

The Navy had initially been the most aggressive with exploiting the benefits of this card. However, the Army quickly surpassed usage of this "plastic money" to save money". (http://www.forscom.army.mil/pao/Jan96_releases/impac.htm, Dec 96) To quote the FORSCOM release:

Reengineering within the Department of the Army has become a critical part of the ongoing reinvention of government. One of the many ways in which this can be clearly seen is the establishment of a new method of purchasing low-cost supplies--the International Merchant Purchase Authorization Card.

In FY 95 Forces Command (FORSCOM) has saved \$27.9 million in administrative costs and cold cash. For FY96, FORSCOM has projected to save \$31.3 million. These FY 95 figures were comprised by avoiding 318,000 purchase orders that cost the government \$54 each. Equivalent to handle purchases, saving \$1.4 million. They are doing it through reengineering.

(http://www.forscom.army.mil/pao/Jan96_releases/impac.htm Dec 96)

In addition to the money saved is the immense amount of time saved in purchasing logistics items and low cost acquisition items and subsequent reduction in personnel to process orders. To quote Suzy Lyons, chief, Policy and Management Team, Directorate of Logistics, Forces Command, "The old procurement cycle could take as long as three months before the request for needed supplies would reach the buyer". (http://www.forscom.army.mil/pao/Jan96_releases/impac.htm, Dec 96)

To illustrate this point of potential savings further a quote from the U.S. Army Engineer Waterways Experiment

Station 1 logistics survey is included. By evaluating their needs and processes they achieved:

...transforming a Logistics Division by merging various functional responsibilities with organizational elements with complimentary responsibility. A supply and warehouse operations was eliminated by implementing the IMPAC Card. The need for multiple warehouses was reduced and "Supplies and materials can be procured though the Internet using GSA Advantage program at a low price and are delivered directly to the ordering office often within one day. The WES enhanced responsiveness and realized a \$200,000 cost avoidance per annum.

The goal was for the Army overall, in FY97, to use the IMPAC card for 80 percent of their estimated 2.4 million micro-purchases. The tremendous push by senior leaders at all levels, especially by Army Chief of Staff General Reimer, has allowed the Army to far surpass this requirement. As of June 1997, the Army purchased 90.8 percent of their 2.4 million micropurchases using the IMPAC Card. (Laurent, 1997) Using rough calculations of \$54 per transaction multiplied by 2.2 million transaction equates to an optimum potential savings of \$118,800,000.00.

The other services are benefiting as well. To show what this initiative is doing for the Marine Corps, this quote from DFAS's homepage is provided:

IMPAC implementation is set. Turner said 75 to 80 percent of all papers that come to vendor pay can be eliminated, adding that with 1,500 invoices waiting for receiving reports so they can be paid, a lot of interest is accruing. With IMPAC, DFAS can pay bills more quickly. Annual savings to the Marine Corps is estimated at \$3 million. (<http://www.dfas.news/dfaszine/win97/agency4.htm>)

Statistics gained from the Naval Supply Command's Homepage (<http://www.navsup.navy/nsrf/navsuphq.htm>) provided that As of July 1, 1997, 76 percent of all DoN's micropurchases were bought with the card. The resulting 876,373 transactions multiplied by the \$54 savings would amount to \$47,324,142.

The IMPAC article provided additional information to calculate all four services and the Veterans Affairs input. An estimate of 10 million total transactions by the four services is obtained by taking the following facts:

- Army makes 23% of all governmental purchases.
- Army is projected in 1997 to conduct 2.3 million transactions alone.

Taking the 23 million transactions divided by 23 percent equates to 10 million purchases for the federal government. Since the four services and Veterans Affairs produce 57% of the total transactions, a rough estimate of 5.7 million by these organizations is derived. Since each transaction saves a minimum of \$54 dollars over using blank purchase orders, a total of \$307,800,000 in savings annually is achieved. (Laurent, 1997, p. 35)

Additional savings are achieved from two forms of rebates offered by the banking institutions for early payments of bills. Agencies can earn two types of rebates. The first type is a saving of up to two basis points (each point equates to 1/1000 of a percent) on annual purchases. The VA is getting the maximum rebate of \$6.60 per \$1,000 for

paying its bills within 54 days of receiving them. (Laurent, 1997, p. 35) From August to January (6 months), the Army, Navy, and Veterans Affairs earned \$1,972,365. This would equal \$3,944,730 for a full year.

Another saving is going to be obtained when DoD converts to Rocky Mountain/First Bank's Corporate payment system. This will remove an estimated \$580,000 per year in interest payments. On invoice disputes, DoD will pay the invoice first instead of waiting for customers to reconcile each charge.

The future holds increased savings through the IMPAC card. The rough estimates above do not include DLA savings. Additionally, with each passing year, more and more commands achieve greater utilization of the card thus obtaining greater benefits. The Army illustrates this point the best. The Army has increased the value of its purchases by 392%; from \$2.7 million in 1990 to \$750.5 million dollars in 1996.

Very conservative estimates of savings are show below in Table 17. These savings do not include reduction in personnel, man-hours, and other anticipated savings.

Table 17. IMPAC Card Savings

Transaction savings from using IMPAC vice BPA	\$307,800,000.00
Savings from rebates	\$ 3,944,730.00
Savings from interest costs	\$ 580,000.00
Total Savings:	\$312,324,730.00

(Jenkins, 1997)

This estimate of the savings indicates the potential for greater savings across the Department of Defense.

D. KEY FACTORS THAT INFLUENCE LEVEL OF LOGISTICS REINVENTION

This section provides an analysis of critical factors that appear to influence the level of lab success. These common elements are derived from literature review and the perspectives provided by Reinvention Lab representatives at the 1997 Reinvention Lab Symposium and the survey of the Reinvention Lab representatives. It is important to note that these factors are universal and are not limited to the area of logistics. For new labs seeking change through reengineering and reinventing, it is critical to incorporate the elements of success and to plan wisely.

1. Factors Leading to Success for Logistics Reinvention Laboratories

The data confirmed eight reoccurring elements key to achieving successful organizational change. These factors incorporate evolutionary, sound leadership and management practices, many of which have been tested in private industry. These common factors span organizational size and functional boundaries:

- a. Acquiring and maintaining commitment of top leadership.
- b. A clear vision, organization goals and a plan of action to achieve them.
- c. A sense of urgency to these goals.
- d. Communicating the vision, goals, and plan of action to everyone in the organization.

- e. Establishing performance standards to track, control and adjust direction of organization.
- f. An understanding of obstacles to change and persistence in overcoming them. (Jones and Thompson, 1997, p. 127)
- g. Recognition of successes and extraordinary efforts
- h. Institutionalizing a continuous improvement mindset and a willingness to experiment. (Goldstein, 1997)

a. Commitment of Senior Leadership.

Reinvention success depends heavily on steadfast support from senior leadership. In the more successful reinvention examples, closed loop recycling at DDSP, the Marine Corps recruit depot direct-deposit program, and the Army's IMPAC program, top-level management support was clearly evident and a driving factor.

Senior support arises for many reasons -- personal or organizational goals, unit pride, mission and budgetary necessity. In many cases, these reasons open the door for innovative practices to be implemented. DDSP senior leadership was driven to innovate by potentially heavy fines for compliance with environmental quality laws. Prime Vendor was propelled by a GAO report recommending commercialization of food supply in the military. Unit commanders requested the Air Force Action Workout team visit their locations to offer suggestions for change. In each case, innovation was sought out and committed leadership was evident.

What happens when the commitment falters? Examples of uncommitted leadership show that waning support

impedes successful initiation if not doom a reinvention initiative. Without commitment, badly needed resources (time, money, and people) get shifted to other areas viewed as more important -- leaving the initiative without the means to succeed. Consider, for example, the U.S. Army Forces Command (FORSCOM), Fort McPherson Georgia. FORSCOM was designated a Reinvention Laboratory in December 1994. (DoD, 1996) The Strategic Systems Division, reporting directly to the FORSCOM Chief of Staff and participating in command planning, was created to manage FORSCOM's reinvention efforts. With this senior support came direct communication to key management, badly need resources and a sense of urgency to implement these initiatives. (FORSOM, 1997, p. 5-8). Reinvention efforts achieving dramatic cost savings and order of magnitude improvements in efficiency and effectiveness under this level of support resulted. (Jones and Thompson, 1997, p. 118)

However, this all came to halt a few years later. Personnel and organizational changes have significantly reduced Strategic Systems' once strong influence and capability to institute successful change. The new head of Strategic Systems had no background with reinvention and placed little emphasis on it. Additionally, key leadership within the FORSCOM leadership structure had rotated, leaving Strategic Systems without strong backing from higher headquarters. These changes in structure placed Strategic Systems six steps out in the chain of command hierarchy.

(Hagemann, 1997) Resources and senior level interest withered away. Junior personnel replaced the once high level seniors with the power to implement at the reinvention meetings. Reinvention was stagnant if not almost non-existent. FORSCOM representatives expressed considerable frustration. This once justifiably proud, premier reinvention organization now was being pronounced "dead" by its representatives. (Hagemann, 1977)

b. A Clear Vision, Organization Goals and a Plan of Action to Achieve Them.

The second element of successful reinvention laboratories is the ability to establish a clear vision and corresponding plan of action to achieve this vision. Recruit Depots San Diego is a good example. Starting with an initial directive by DoD to use electronic fund transfer to pay active duty personnel, the MCRD Financial Team established a solid vision incorporating credit cards, checking accounts, and direct deposit to achieve greater effectiveness and efficiency. From this vision, an integrated, solid plan, incorporating all critical stakeholders, was created and subsequently executed. (Ruiz, 1997)

DDSP also illustrates this point. The DDSP had a clear vision -- 100% closed-loop recycling -- and achieved it. In developing their plan to achieve their vision, DDSP conducting considerable research, benchmarking private industry, and analyzing all external and internal factors.

This comprehensive plan ensured the smoothest possible execution of this innovative change.

Randa Vagnerini, Director, Strategic Management and Innovations Division, Management Directorate, Office of the Chief of Staff, Army emphasizes the importance of this in stimulating reinvention. Her advice to someone who would take over her billet:

... develop a strategic plan as to what reinvention is and what being a lab could do for the Army and get that plan endorsed by the senior leaders. A plan that defines common goals and objectives and what type of results are expected from each lab. Reporting to the senior leaders how the plan is working and what it is doing for the Army.

Major Randy Pierce, USAF, working for the Director of Transportation offers this suggestion to new labs:

The lab should have a clear charter and focus and there should be buy in on the lab's charter and focus with each change of command to ensure success. The charter and focus should be communicated to senior leadership to establish and maintain support for the lab.

Disjointed or "ad hoc" planning can result in initiative failure or at a minimum, waste of valuable resources. To quote one representative:

There are too many disjointed initiatives that are on-going that actually apply under the reinvention program. Many times, these efforts compete with each other rather than complimenting each other. This disjointed approach causes each program to compete for time and resources of the same staff offices. We recommend that single office be assigned responsibility to oversee the "system of change".

The initial DoD reinvention waiver process was also an example of this. When first created, the DoD did not have a standardized waiver request established. As a result many of the labs complained that the lack of a formalized process, points of contact list and examples to benchmark made implementing a waiver almost impossible. The lack of a coherent plan, with distinct approval steps, caused many representatives to feel like their pursuit of the waivers were a waste of effort. A common feeling expressed was that their waivers fell into, "... a black hole, never to reappear again". (Dunklin, 1997)

Realizing that every service was in fact implementing its own procedural requirements and that even these were not widely disseminated, the DoD/OSD reinvention office promised to establish a single point of contact and waiver format for all of DoD. (Foster, 1997) "Within two months after the 1997 conference, the Office of Performance Improvements and Management Reengineering has a simplified, centralized process in place and running". (Jones and Thompson, 1997, p. 120) Web sites with waiver policy, grant of blanket waiver authority from the Secretary of Defense, and a standardized waiver process was instituted on April 2, 1997. (Jones and Thompson, 1997, p. 121)

c. A Sense of Urgency to These Goals

Without a sense of urgency, reinvention initiatives lose the critical emphasis of senior leadership

and respective support of badly needed resources. The traditional defense organization has many requirements daily needing attention. The true challenge is prioritizing them to meet timely each requirement. Leadership must instill "hard" due dates if action and the subsequent results are to be seen. One of DoD's most successful reinvention labs, the Air Combat Command's Action Workout Program, created an "... atmosphere of crisis in order to prod people to seek solutions to problems that otherwise might not seem very important to them." (Griffin, 1997)

This sense of urgency can come from many areas -- congressional mandate, fiscal imperatives, or mission necessity. However, no matter which the driving factor is, the senior leader/manager is responsible for setting a timeline that achieves the ultimate objectives and goal.

The Prime Vendor Program was driven by congressional pressure. This high level push accelerated the program and energized the leadership, right on up to the Secretary of Defense, to support the initiative with all of the needed resources to research, plan and execute it. Without such emphasis, it too may have been placed on the "back burner".

The FORSCOM example shows how a sense of urgency, pushed by senior leadership, ensured success and milestone accomplishment. Changed leadership in mid-stream shows how even a well established, successful lab can fail when support and urgency is removed.

d. Communicating the Vision, Goals, and Plan of Action to Everyone in the Organization

Once a vision, goals, and plan of action are established, a common management principle is to ensure that all employees know of, and more importantly understand, them. By doing this, everyone learns an understanding of their role within the organization and how they fit into accomplishing the goals and plans of action. This is especially important in reengineering and reinvention efforts. Everyone must be "brought on board" with the new ideas or processes. Organizational change is no easy task. However, good organizations sell the new ideas up and down the organization.

The more successful reinvention labs clearly convey this point. David Whipple, of the Naval Postgraduate School, for example, felt it was one of the cornerstones to his organization's success. His impressive salesmanship and marketing of NPS's vision as the Navy's corporate university to the senior Navy chain of command, OSD, and potential customers, enabled NPS's customer base to rise exponentially while other DoD educational institutes are fighting for survival.

A second example was Defense Contract Management Command (DCMC). Admiral Leonard Vincent, the Director of DCMC, personally briefed each of his commanding officers about the importance of the Process Oriented Contract Administration Services Program. Additionally, he ensured

that the word got out about this need to every employee by mandating the review of a video tape containing his vision and strategic plan for this program.

The initial handling of the reinvention process illustrates the problems associated with not communicating these essential points. Discussion with lab representatives at the symposium and the survey results indicate that many labs, prior to the conference, did not have the DoD reinvention vision or plan of action for pursuing waivers conveyed to them. Many of the labs did not realize they were obligated to communicate their goals or accomplishments. (Jones and Thompson, 1997, p. 122) To further illustrate, Commander Dunklin, the DON representative at the conference, noted that he had not received any of the mandatory quarterly reports from the reinvention labs in fourteen months.

Another major issue that became evident at the symposium was the fact that although it is a requirement for each lab, many labs did not have access to the Internet. Additionally, representatives made it clear that they were unaware that they were required to construct a web page and to advise their respective service/agency coordinators as to their universal resource locator (URL). This point became painfully obvious in conducting the logistics survey as well. The labs are suppose to keep their respective chain of command, including DoD/OSD, advised on their current e-mail address. Unfortunately, the master lab e-mail

maintained by the Office of Performance Improvement and Management Reengineering, OSD is badly out of date as many labs fail to keep DoD/OSD notified of their current address and points of contact. This lack of understanding of the vision and goals of DoD Reinvention have compounded to hamper networking and sharing of ideas and, ultimately, have reduced the potential that reinvention DoD-wide could have obtained.

e. *Establishing Performance Standards to Track, Control and Adjust Direction of Organization*

A major problem with DoD initiatives is the lack of solid data to demonstrate success. The 1997 Reinvention Symposium, the logistic survey responses, the *Reinventing the Department of Defense September 1996* and *Defense Performance Review Reinvention Laboratory Summary* all provide initiatives that do not have any quantifiable measurements of savings included. DoD agencies with broad missions have a greater challenge than corporate, for-profit organizations. Traditional performance measures such as profit, Return on Investment (ROI) and Economic Value Added (EVA) are almost or completely irrelevant within the majority of DoD's activities. Costs are hard to measure, but this can be overcome; benefits are much harder to measure. As Harrington states:

Without measurement, you cannot control it. If you cannot control it, you cannot manage it. If you cannot manage it, you cannot improve it.

With the push for performance-based objectives to be accomplished by government agencies, leaders are going to have to establish methods for quantifying and subsequently justifying their results in comparison to their costs. Two common ways of measuring process performance when other tangible quantitative measures cannot be utilized are customer involvement and benchmarking. Obtaining and documenting customer input with regard to satisfaction of performance, organizational responsiveness, and product quality improvement, if done right, can provide effective measures for establishing current status and future objectives. Unique organizations can, additionally, use quantitative analysis of past performance (benchmarking) to set goals and objectives for which process improvement can be implemented. The bottom-line objective is that all organizations should continuously use some types of measures of effectiveness to assess their current status, establish goals, and ensure processes are meeting customer expectations.

DDSP sought out industry's best and benchmarked their measurements. Defense Personnel Support Center used their own past to measure the success of their new Prime Vendor Program. The Air Force's Action Workout Team taped and measured the unit they were assisting to establish a baseline for their change efforts.

f. An Understanding of the Obstacle to Change and Persistence in Overcoming Them

For most labs, "not accepting no" became a mindset with their initiatives. Resistance, in one form or another, faced the majority of the labs every step of the way. As one reinvention lab stated in its response, "It would be refreshing for (organization) and DoD to look for a way to say yes vice no". Reinvention and reengineering by its definition mean starting new; in government this equates to friction. Reengineering means to start over in rebuilding work processes, not to modify the current process. Reinvention means to recreate service market strategy or the organization's strategic planning and market research. (Jones and Thompson, 1997, p. 17)

Labs that identified and judiciously planned early in the process to overcome predictable impediments to change generally had an easier time. Planning and persistence in pushing the initiatives enabled labs to obtain greater progress and reach higher levels of improvement.

Jerry Clemens of DDDS communicated the persistency his organization had in their efforts to install what should be an obvious cost savings initiative -- the closed loop recycling process. Encountering many DLA policies, DoD regulations, Presidential Orders and statutes, his organization constantly looked for ways around these "walls" of resistance. Clemens described this as "thinking outside the box."

DeVincentis of DPSC reported a great example of resistance that would not break. For a long period of time, DPSC had attempted to get the services to standardize food ordering methods. The services want the convenience and associated cost savings from this proposed initiative. However, they will not standardize the way they order. Electronic ordering, in addition to cost savings, would have streamlined order processing time, and reduced staffing and storage space for the inventory.

Persistence in reinvention cannot be overemphasized. Long time followers of DoD reinvention efforts, Professor Lawrence R. Jones and Professor Fred Thompson sum up the need for persistence with the reinvention process within DoD:

While DoD's stated philosophy is that the burden of proof rests with the regulators to show why a waiver should not be granted, rather than on the Reinvention Laboratory to show why a waiver is needed, that is evidently not how many of the regulators see it. The typical experience of the symposium participants was that they had to convince the regulators beyond a shadow of a doubt that the waiver was a good idea -- in some cases, not just for them, but the entire DoD, which misses the whole point of the lab exercise!

g. Recognition of Successes and Extraordinary Efforts

As in any public or private organization, publicly recognizing successes and the people behind them is critical for continued improvement within the organization. The Reinvention Labs are no exception. The initial spirit of

the Reinvention Lab was to empower the "front-line" worker with the intimate knowledge to offer suggests to improve the workplace. Through public recognition, it was hoped that a synergistic attitude towards improvement would develop.

The Hammer Award and the Presidential Quality Award are two positive ways DoD can celebrate and reward people for their efforts. In addition to the Hammer Award (described on p. 42), is the Presidential Quality Award. This award is DoD's equivalent to private industries' Malcolm Baldridge Award.

Leaders need to be aware of the importance of rewards and the level at which they are given. National recognition is very important to unit commanders/managers. However, many workers are more inspired when rewarded for their excellence in front of their peers. This creates a positive spirit of competition and unit pride.

DoD is trying to be more like the private sector. With the creation of more financial incentive programs, DoD civilians have the opportunity to benefit from both cash and non-monetary rewards for exceptional service and innovation. Unfortunately for the services, with the exception of spot promotions by senior level officers, they are restricted to non-monetary incentives.

At the 1997 Reinvention Conference and in the logistics survey, many labs expressed frustration with the level of attention their efforts were getting at both their local command and service-wide. One lab representative

stated that their senior leadership "... wants to appear to be involved with the least possible effort." (Jones and Thompson, 1997, p. 132)

h. Institutionalizing a Continuous Improvement Mindset and Willingness to Experiment

When the Air Force described their reinvention program, they indicated that process improvement was a constant procedure across the service. Their belief was that reinvention should not be something unique. It should be an everyday mindset at every level. (Witt, 1997) This point is one others would do well to emulate. Unfortunately, with the current resource constraints and down-sizing of DoD, most units are heavily burdened and they fight fires to do their daily mission. Tunnel vision drives out "outside of the box" thinking.

Jeffrey Goldstein, of the NPR staff, explained at the symposium that, "... successful labs will not declare victory and quit after reinventing one process, but will continue on the path of change -- moving from one success to success." (Jones and Thompson, 1997, p. 132) The Action Workout Team exhibited this mindset. Even though their purpose is to be "reinvention" consultants, they still go the extra step in energizing and training local units to spread the wealth of knowledge. Jerry Clemens and DDDS also exhibited the continuous improvement mindset. The organization started with recycling wood, then cardboard, and now is working on 100 percent closed-loop recycling at

all major FORSCOM bases. Debbie Ruiz stated that after MCRD's success, they were going to push their lessons learned to Camp Lejeune and start looking for other financial areas to improve. Success is contagious as long as leadership continues to support and celebrate it.

At the other extreme, numerous labs have terminated. Some achieved their goals and saw no others to pursue. Others attempted to ride the reinvention wave and to push forward innovation, but met with friction. As a result, their spirit of innovation was drained. Sadly, many of these once highly motivated individuals succumbed to simply "doing the job" and quit fighting "the system". The greatest loss is not the fact that their reinvention waiver was not approved; it is that their vitality to continuously seek improvements was dashed.

2. Factors Impeding Potential Success for Logistics Reinvention Laboratories

Based on all of the research and information collected from the Lab representatives at the DoD Reinvention Laboratory Symposium and through the logistics survey, the following barriers to reinvention and suggestions to correct or lessen their impact were identified:

a. Problem: Untimely Processing of DoD Waivers

Potential Resolution:

- Reinstitute mandatory approval/disapproval within 30 days.

- If unable to meet this time guideline, increase time allotted to 60 days. However, do not keep sliding back time requirement and stick to newly established guideline once instituted.

b. *Problem: Absence of Clearly Defined Rules for the Waiver Request and Approval Process.*

Potential Resolution:

- Services need to create one master requirements list. Once done, Service Chief of Staffs or DLA equivalent needs to ensure that this waiver request is “the document” that all commands use. Instructions must be issued to ensure that non-uniform modifications are kept to a minimum at all levels.
- Provide guidance on one central location on the web. Create a process handbook that answers most common questions. (Kent, 1997)

c. *Problem: Bureaucratic Resistance to Change*

Potential Resolution:

- No perfect answer exists.
- Resistance to change can be reduced through continuous “selling” of entrepreneurial benefits; instituting an efficiency and effectiveness mindset at all levels everyday; celebrating success and using incentives.

d. Problem: Poor Communication and Information Dissemination

Potential Resolution:

- Implement and maintain a “lessons learned” and points of contact “warehouse”. (Burnham, 1997)
- Use links to connect all of the current disjointed information centers. This should be done at all levels of DoD.
- Investing time and money early in the planning and executing of information dissemination can save tremendous effort in the long run. Senior reinvention coordinators should attempt to “push” information and “pull” the Laboratories’ thirst for information. Make it a requirement that if Labs want to access the DoD Reinvention data base, receive the latest reinvention electronic newspaper, etc. that they have to input their current e-mail address, update the waivers they are pursuing and any other information required by the service/agency coordinators. This will produce a win-win environment. The key is that the senior service/agency coordinator has to make the newspaper and data base attractive so that it would be wanted by the Labs.

e. *Problem: Absence of Financial and Human Resources to Implement Reinvention*

Potential Resolution:

- DoD does not fund a "best ideas" program. Commands, like TRADOC, should be benchmarked in handling lack of resource issues. Programs like BOLD and B-SMART (Ch. V.B.2.a.(1).) should be benchmarked. Realizing that there are current statutes preventing this, an initiative that would provide an incentive to commands with the most noteworthy planned initiatives or highest savings return would be beneficial. An incentive program DoD-wide could be initiated, with congressional approval, where the award money obtained from savings is made available in future years. This type of system would provide a win-win atmosphere for Reinvention Labs and DoD. The current program provides little incentive as organizations pay out of pocket when implementing change. Additionally, they reap no benefits beyond the current fiscal year from achieved savings.

f. Problem: Absence of Strong, Committed Leadership at Respective Organizational Levels

Potential Resolution:

- Educate leadership about Reinvention.
- Train junior officers and civilians early in their career in the lessons of reinvention.
- Reduce organizational fear of taking a well-analyzed and calculated risk, continuously sell entrepreneurial benefits and showing examples of organizational success.

g. Problem: Absence of a Single Point of Contact in DoD, the Services, and Agencies that Promulgate Guiding Principles for Reinvention.

Potential Resolution:

- Reduce number of POC's and provide clear direction to those that remain.
- Senior leadership is critical here. Only when senior leadership, i.e. service Chiefs of Staff, direct this to happen will the number of POCs be reduced.

h. Problem: Insufficient Knowledge and Training on Defining and Applying Entrepreneurial Ideas Including How to Restructure, Reengineer, Reinvent, Realign, and Rethink Organizations to Achieve Process Improvements, and Cost Saving and Instill Permanent, Continuous Improvement Philosophies. (Jones and Thompson, 1996, p.1).

Potential Resolution:

- Increase education and training.
- Creation of AWO Teams similar to the Air Force.
Teams may be created at varying levels depending on the overall need of organization.
- Use of consultants expert in the areas of reinvention to assist Labs, especially at the beginning of the change process, but also through the period of change.

VI. CONCLUSIONS AND RECOMMENDATIONS

A. INTRODUCTION

The purpose of this thesis is to examine the logistical successes and other accomplishments of the Department of Defense Reinvention Laboratories and the impediments these Laboratories have faced in their efforts to improve efficiency and effectiveness. This chapter answers the primary and secondary research questions based upon the information developed in the thesis research. Additionally, advice for further research on DoD Reinvention Laboratories is provided.

B. CONCLUSIONS

The following are the conclusions of this research:

1. Logistics Reinvention Has Achieved Moderate Results within DoD.

DoD Reinvention Laboratories hold immense potential for DoD to increase effectiveness and efficiency through restructuring, reengineering, reinventing, realigning and rethinking. With the second largest number of Labs, logistics has shown some of the greatest achievements documented to date. However, limited sharing of these successes and lack of leadership and resource support have prevented DoD from exploiting the benefits from successful organizational changes.

2. Repeated Lessons of Reinvention

Many new labs attempting to implement change fail to achieve complete success due to their inability to identify critical factors that influence their outcome.

3. Barriers to Logistics Reinvention Exist

Barriers exist which extend beyond the area of logistics reinvention. Until organizations plan for and attempt to minimize the affects of universal impediments, they will continue to meet failure and limit the success they can achieve through reengineering and reinvention.

C. RECOMMENDATIONS

These areas identified during the research are suggestions for DoD in exploiting the tremendous improvement capability that reengineering and reinvention possess:

1. Benchmark Lab Successes Identified and Pursue DoD-Wide Implementation

The researchers recommended that the DoD and OSD “push” success stories to be benchmarked and implemented DoD-wide, as feasible, by other similar labs or organizations. Through active “piggy backing” of these successful initiatives, DoD can amplify and build upon the successes in improving streamlining, quality and performance improvements.

Senior leadership must “champion” the reinvention cause if it is truly flourish. If doubts exist leadership should conduct cost-benefit analysis. The savings of reinvention to date justify the investment in the more promising

innovations for change. The future demands of meeting Joint Vision 2010 will require greater efficiency, effectiveness and flexibility in our logistics organization. Additionally, increased resource savings will allow greater pursuit in investment in the modernization of our forces. Resource savings of \$342,524,730 by the following five successful reinvention labs initiatives provide a snapshot of potential benefits to DoD:

a. DDSP Closed Loop Wood Recycling

Total Savings: \$8.4 million in annual savings achieved.

- \$2.0 million in landfill costs avoided
- \$2.9 million in costs for new pallets avoided
- \$0.6 million in costs for dimension lumber saved
- \$2.9 million in packaging material costs saved

b. MCRD San Diego Direct Deposit

Total savings: \$1.7 million in annual cost savings

- \$780,000 per year savings in eliminating requirement to process and mail 500,000 paychecks
- \$100,000 savings in purchasing, issuing and processing traveler checks
- 2.5 training days now available for other training requirements
- Six full time front line workers shifted to other tasks (estimated 12,000 man-hours per year)

c. Air Force Action Workout

At McDill AFB Medical Facility savings were:

- 4.4 hours saved per patient to perform scheduling and administrative functions.
- 900 foot reduction in patient movement distance
- 7.0 miles travel distance on average per patient

The B-1B Maintenance Program savings were:

- 50% reduction in required maintenance man-hours -- saving 48 hours per lubrication and service
- 2.6 mile reduction in travel distance to complete maintenance action

d. Defense Personnel Support Center Business Practices Reengineering - Prime Vendor

Total savings: \$20.1 million in annual cost savings

- \$1.4 million in personnel costs were saved by eliminating 54 positions
- 144,000 total square feet of warehouse space was no longer required at four sites
- A reduction in \$18 million in inventory was obtained and the 700,000 annual carrying costs were eliminated

e. IMPAC CARD

- Total savings from just the four services: \$312,324,730.00
- 4.0 hours saved per order processed

2. Include Lessons Extracted From Reinvention Successes in Planning Process.

This study identified eight recurring elements which span organizational size and functional boundaries and are key to achieving successful organizational change. The author recommends that new labs seeking improvement through reinvention or reengineering incorporate these elements early in their planning phase. New labs must continually validate the level of support given to the following key aspects or practices to ensure success with general management and logistics reinvention:

- a) Acquiring the commitment of top leadership.
- b) Developing a meaningful and clear vision and a plan of action to accomplish the reinvention goals of the organization.
- c) Creating a sense of urgency to accomplishing the goals of reinvention.
- d) Communicating the vision, goals, and plan of action to everyone in the organization.
- e) Identifying obstacles to reinvention and persistently finding a way to overcome them through entrepreneurial thinking, planning, and risk taking actions.
- f) Establishing means of measuring performance. Measure performance and adjust the process to incorporate corrections.
- g) Publicize success and recognize people for their efforts.
- h) Institutionalize the process of continuous improvement and permanent reinvention -- make it an everyday mindset.

3. New Labs or Institutions Pursuing Change Need to Proactively Plan for Barriers to Reinvention.

The author recommends that the following barriers to logistics reinvention and the suggestions to overcome them, as identified in this thesis, are studied and incorporated into plans prior to executing process or organizational change:

a. *Problem: Untimely Processing of DoD Waivers*

Potential Resolution:

- Reinstitute mandatory approval/disapproval within 30 days.
- If necessary, increase time allotted but ensure new timeline is adhered to.

b. *Problem: Absence of Clearly Defined Rules for the Waiver Request and Approval Process.*

Potential Resolution:

- Create and support one uniform waiver master requirements list for services and DoD.
- Provide guidance on reinvention process in one central location on the web. Include a process handbook that answers common questions. (Kent, 1997)

c. *Problem: Bureaucratic Resistance to Change*

Potential Resolution:

- Reduce resistance to change by continuous “selling” of entrepreneurial benefits; instituting an efficiency and effectiveness mindset at all levels everyday; celebrating success and using incentives.

d. Problem: Poor Communication and Information Dissemination

Potential Resolution:

- Implement and maintain a “lessons learned” and points of contact “warehouse”. (Burnham, 1997)
- Use links to connect all of the current disjointed information centers.
- Invest time and money early in the planning and executing of information dissemination. DoD/OSD reinvention staff needs to create win-win environment with information pipeline that drives labs to demand continuous access to reinvention information tools and ensures DoD/OSD database up-to-date.

e. Problem: Absence of Financial and Human Resources to Implement Reinvention

Potential Resolution:

- Establish DoD-wide reinvention “best ideas” investment program.

f. Problem: Absence of Strong, Committed Leadership at Respective Organizational Levels

Potential Resolution:

- Educate leadership about Reinvention.
- Train junior officers and civilians early in their career in the lessons of reinvention.
- Reduce organizational fear of taking a well-analyzed and calculated risk, continuously sell entrepreneurial benefits and showing examples of organizational success.

g. Problem: Absence of a Single Point of Contact in DoD, the Services, and Agencies that Promulgate Guiding Principles for Reinvention.

Potential Resolution:

- Reduce number of POC's and provide clear direction to those that remain.

h. **Problem:** *Insufficient Knowledge and Training on Defining and Applying Entrepreneurial Ideas Including How to Restructure, Reengineer, Reinvent, Realign, and Rethink Organizations to Achieve Process Improvements, and Cost Saving and Instill Permanent, Continuous Improvement Philosophies.* (Jones and Thompson, 1996, p.1).

Potential Resolution:

- Increase education and training.
- Create AWO Teams similar to the Air Force.
- Use expert consultants to assist in change process.

These barriers and approaches to resolution are also not unique to logistics reinvention. They are common to all functions within DoD and to private industry attempting to reengineer and reinvent their organizations.

D. SUMMARY

The future demands of meeting Joint Vision 2010 will require greater efficiency, effectiveness and flexibility in our logistics organizations. Reengineering and reinvention are making streamlining, quality, and performance improvements. Given the decreasing buying power of the DoD budget, significant emphasis is being placed on logistics to help pay for the investment in the modernization of our forces. The estimated dollar savings alone from the five initiatives (\$342,524,730.00) indicates that business improvements in logistics can make a sizable difference. To quote Paul G. Kaminski, Under Secretary of Defense (Acquisition and Technology) in The 1995 Department of

Defense Logistics Strategic Plan, it is through these savings in, "engineering costs out of the logistics tail that will enable DoD to become more efficient and effective, invest in its future (modernize) and meet the future challenges our nation will face." (Kaminski, 1995, p.9)

E. AREAS FOR FURTHER RESEARCH

This thesis examined the accomplishments of Reinvention Laboratories. It benchmarked innovative logistics initiatives and confirmed previous lessons learned about elements that enhance or impede successful reinvention/reengineering initiatives. Additional research is required to document the staying power of reinvention in DoD. Critics already are stating that, like TQM, reinvention is losing or has lost its senior level support, if it ever had it in the first place. As more data becomes available, a better cost-benefit analysis of the Reinvention Labs should be conducted. Secondly, specific studies should be done to see how different sized and functional organizations are affected by selected impediments. Third, a cost benefit analysis should be performed on the implementation of DoD reinvention communication, e.g., an improved data base for reinvention and other means to stimulate organizational self-learning.

APPENDIX A.

LOGISTICS REINVENTION SURVEY FOR "FRONT-LINE" REPRESENTATIVES

DEPARTMENT OF THE NAVY
NAVAL POSTGRADUATE SCHOOL
MONTEREY, CALIFORNIA 93943-5100

26 June 1997

From: Professor Lawrence R. Jones
To: Department of Defense Reinvention Labs
Subj: REINVENTION LAB LOGISTICS

Hello,

We documented the DoD Reinvention Laboratory Symposium sponsored by the DoD Comptroller, Office of Performance Improvements and Management Reengineering (PI&MR) held in Rosslyn, Virginia January 26-31, 1997. We were impressed with the numerous examples of truly innovative success stories shared by the reinvention laboratories. This survey follows-up on the information obtained during the symposium. Through your assistance, we hope to provide the PI&MR Office, and the Service NPR offices, greater insight into how the reinvention and waiver review process could be improved.

This survey focuses exclusively on your Lab's logistics and transportation waivers:

- Please briefly answer the following eleven questions. We would appreciate the attachment to your response any material that amplifies or expands on your answers.

General Reinvention Process

1. Have you been able to make any changes as a result of your participation as a reinvention lab?
 - A. If no, why not?
2. If yes, Have you reported the results of your reinvention efforts? Specifically,
 - a. What are the benefits?
Cost savings, manpower hours saved, steps or functions reduced, other performance improvements;
 - b. What metrics have been used to estimate performance?
 - c. What are the front-loaded costs to your unit?
 - d. What incentives to reinvent have been present in your command?
 - e. Who are the champions or key support personnel for reinvention in your command or elsewhere?
3. Describe your best reinvention success story or stories in terms of achievements, cost savings, cost avoidance and other efficiencies achieved.
4. Describe the most serious impediments to successful reinvention/process improvement.

5. Please rank the barriers to your reinvention efforts as listed below:

a. Disincentive to reinvent

(Rank as appropriate: highest to lowest i.e. 5 - greatest problem, 1 - least problem)

Up front costs	5	4	3	2	1	N/A
Anticipated funds lost	5	4	3	2	1	N/A
Loss of jobs	5	4	3	2	1	N/A

b. Absence of resources (personnel or financial)

for reinvention

5 4 3 2 1 N/A

c. Generalized resistance to change

5 4 3 2 1 N/A

Waiver Process

6. Are you aware of the new waiver guidelines for DoD regulations published by Dr. William Hamre, DoD Comptroller?

7. What problems have you had with the waiver process for:

- a. Waivers to Department of Defense regulations?
- b. Waivers to Service level regulations?
- c. Waivers to Internal command level regulations?

8. Please rank the barriers to the waiver process listed below:

(Rank as appropriate: highest to lowest i.e. 5 - greatest problem, 1 - least problem)

a. Support for waivers from:

Senior DoD leadership	5	4	3	2	1	N/A
Service leadership	5	4	3	2	1	N/A
Internal command leadership	5	4	3	2	1	N/A

b. Rules imposed by external statutes or commands

5 4 3 2 1 N/A

c. Perceived lack of knowledge or experience about waiver process or procedures at:

DoD level	5	4	3	2	1	N/A
Service level	5	4	3	2	1	N/A
Internal command level	5	4	3	2	1	N/A

d. Absence of communication or shared experience on waivers via:

Internet	5	4	3	2	1	N/A
Data base of lessons learned, similar waivers and etc.	5	4	3	2	1	N/A
Points of contact list	5	4	3	2	1	N/A

9. What suggestions do you have to improve the waiver process?

10. If you had any suggestions or comments to a new lab what would they be?

11. What additional suggestions or comments do you have to improve the reinvention process?

12. What additional DoD level support could the Office of Improvements and Management Reengineering Department provide your organization?

Your assistance in compiling this information is **greatly appreciated**. Please respond to this survey via e-mail by 23 July 1997. Send your response to:

Captain Todd M. Jenkins
E-mail: tmjenkin@nps.navy.mil
H: (408)-372-8629
Fax: (408)-656-2138

Any questions or comments on this survey should be directed to:
Professor Lawrence R. Jones
E-mail: lrjones@nps.navy.mil
W: (408)-656-2482
DSN: 878-2482

APPENDIX B.

LOGISTICS REINVENTION SURVEY
FOR SENIOR COORDINATORS

DEPARTMENT OF THE NAVY
NAVAL POSTGRADUATE SCHOOL
MONTEREY, CALIFORNIA 93943-5100

2 Oct 1997

From: Professor Lawrence R. Jones and Captain Todd M. Jenkins
To: Reinvention Laboratory Senior Coordinators

Sponsored by the Department of Defense and conducted by the Naval Postgraduate School, we documented the Department of Defense Reinvention Laboratory Symposium sponsored by the DOD Comptroller, Office of Performance Improvements and Management Reengineering (PI&MR) held in Rosslyn, Virginia January 26-31, 1997. We then followed up with a survey, focused on logistics, to document the numerous impressive accomplishments noted at the symposium. A copy of this survey was forwarded to all of your offices to ensure that you were kept abreast of the questions we were asking your laboratories.

Having worked hard the last couple of months on obtaining the thoughts and suggestions of the various reinvention laboratories, we have gained a greater understanding of what it takes to get data, maintain an accurate e-mail list, and work with a diverse group of organizations. We would now like to ask the senior leaders of the Department of Defense, who oversee the reinvention efforts, to provide thoughts on the reinvention process as a whole.

In conducting the survey, many positive outcomes of reinvention were discovered. We were impressed with the overall spirit and innovation of the Reinvention Laboratories. As with any organization, where conflicting opinions arise, a few negative trends also were documented in the laboratories in pursuit of change. Our hopes are to include in this research your expertise and opinions on how the challenging and dynamic Reinvention Waiver and General Process has operated. We want to reassure you that credit will be given to any positive suggestions and, more importantly, that any negative comments will be held in the strictest confidence. No names or organizations will be used with the documentation of trends or in the publication of the results of this survey.

DOD Reinvention Laboratory
Coordinators/Senior Leadership
Questionnaire

From your perspective:

1. In attempting to implement reinvention, what were the most difficult challenge you faced:

- a) Absence of resources (manpower, money, time).
- b) Creating or maintaining a database (waiver tracking, list of points of contact).
- c) Creating a web page (with links to key resources or to save you time by disseminating information or answering many of the common questions you have already answered).
- d) Ensuring waiver timelines were met.
- e) Dealing with cultural resistance to change.
- f) Working to change regulatory statutes or laws.

2. Who were your greatest champions who helped you in the reinvention process?

3. Did you ever feel like you were not getting the support you needed to ensure the fullest chance of success? (Yes or No will suffice -- greater amplification would be appreciated).

4. Were there any negative trends noted with the Reinvention Laboratories in processing waivers?

5. What do you feel are your greatest accomplishments? (We would appreciate it if you attached any previously prepared material that quantifies your answer -- our goal is not to have you recreate new material.)

6. In looking back with the experience you have acquired, what would you do differently in your position to stimulate reinvention?

7. What suggestions or comments to a successor taking over your job would you offer?

8. Do you feel that the Reinvention Lab process has lost any momentum? (If so, what key events, loss of people, or other factors have slowed the initiative?)

Your assistance in compiling this information is greatly appreciated. Please respond to this survey via e-mail by 1 November 1997. Send your response to:

Captain Todd M. Jenkins
E-mail: tmjenkin@nps.navy.mil
H: (408)-372-8629
Fax: (408)-656-2138

Any questions or comments on this survey should be directed to:

Professor Lawrence R. Jones
E-mail: lrjones@nps.navy.mil
W: (408) 656-2482
DSN: 878-2482

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Wise, John E., LTC, USA, Response to Senior Coordinators Survey dated October 20, 1997.

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